V12133

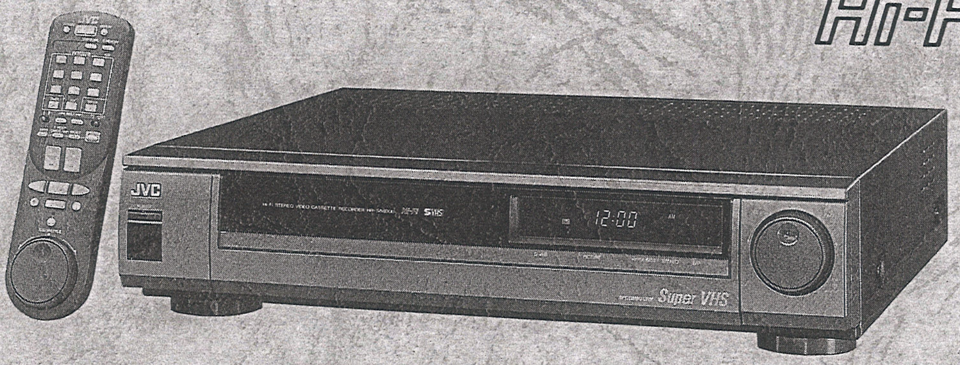
JVC

SERVICE MANUAL

STEREO VIDEO CASSETTE RECORDER

HR-S6800U

Hi-Fi SVHS



SPECIFICATIONS

GENERAL

Power requirement : AC 120 V∼, 60 Hz
Power consumption : 34 W
Temperature
Operating : 5°C to 40°C (41°F to 104°F)
Storage : –20°C to 60°C (–4°F to 140°F)
Humidity
Operating : 35% to 80%
Storage : 5% to 80%
Operating position : Horizontal only
Dimensions (WxHxD) : 435 x 105 x 395 mm (17-3/16" x 4-3/16" x 15-9/16")
Weight : 6.7 kg (14.8 lbs)
Format : S-VHS/VHS NTSC standard with Hi-Fi audio
Tape width : 12.65 mm
Tape speed (SP) : 33.35 mm/sec (1-5/16 ips)
(EP) : 11.12 mm/sec (7/16 ips)
Maximum recording time (SP) : 160 min. with T-160 video cassette
(EP) : 480 min. with T-160 video cassette

VIDEO

Signal system : NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording system : Rotary two-head helical scan system with slant double-azimuth combination video heads
Input : 0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output : 1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio : 45 dB (Rohde & Schwarz noise meter) with PICTURE CONTROL set to OFF
Horizontal resolution : 400 lines (S-VHS)
240 lines (VHS)
with PICTURE CONTROL set to OFF

AUDIO

Input : –8 dBs, more than 50 k-ohms, unbalanced
Output : –8 dBs, less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system : Longitudinal track
No. of channels : 1 normal audio channel
Frequency response : 70 Hz to 10,000 Hz

Hi-Fi AUDIO

Recording system : Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of channels : 2 Hi-Fi audio channels
Frequency response : 20 Hz to 20,000 Hz
Dynamic range : More than 90 dB
Wow and flutter : Less than 0.005% WRMS

TUNER

Tuning system : Frequency synthesized tuner
Channel coverage
(VHF) : Channels 2–13
(UHF) : Channels 14–69
(CATV) : 113 Channels
RF output : Channel 3 or 4 (switchable: preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference : Quartz-crystal
Program capacity : 1-year programmable timer/ 8-programs

ACCESSORIES

Provided accessories : RF cable (F-type),
Infrared remote control unit,
"AA" battery x 2,
S-Video cable (4-pin),
Video cable,
Audio cable,
Mini-plug cable

E. & O.E. Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.

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No. 82305
MAY 1992

NOTE: For a technical description, please refer to Technical Guide VTG82075 HR-S6800 NTSC.

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
Replace only with specified part numbers.
Note: **Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.**

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

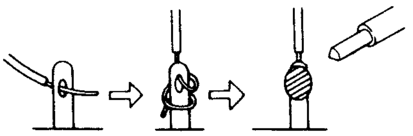

Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

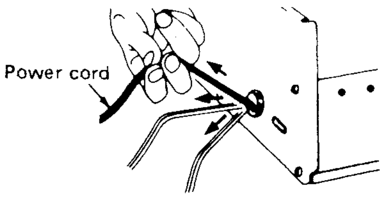

Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
   1) **Connector part number** : E03830-001
   2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
   3) **Replacement procedure**
      (1) Remove the old connector by cutting the wires at a point close to the connector.
      Important : Do not reuse a connector (discard it).

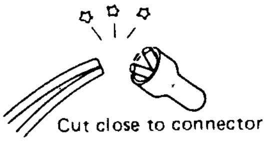

Fig. 3

      (2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

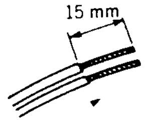

Fig. 4

      (3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

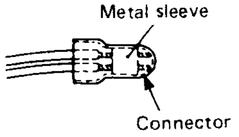

Fig. 5

      (4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

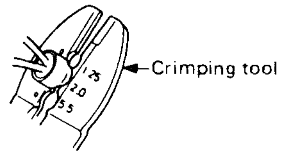

Fig. 6

      (5) Check the four points noted in Fig. 7.

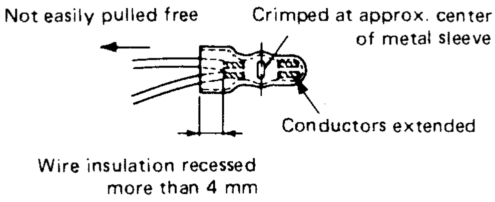
Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

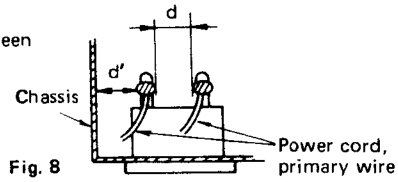

Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of loed Z. See figure 9 and following table 2.

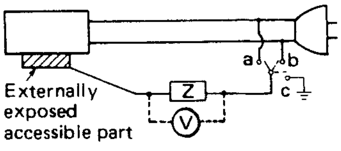

Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

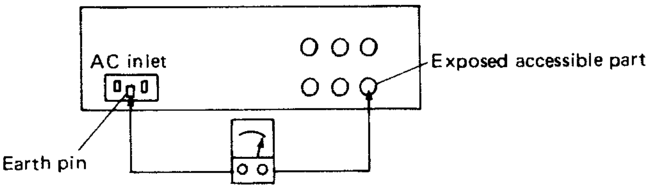

Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

Safety Precautious

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

**WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.**

**This video cassette recorder should be used with AC 120V∿, 60 Hz only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.**

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

NOTE:
When you are not using the video recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:
POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

NOTE:
The rating plate and the safety caution are on the side and rear of the unit.

CAUTION:
Changes or modifications not approved by JVC could void user's authority to operate the equipment.

IMPORTANT:
Please read the "Precautions" section of this instruction manual and the "Video Products Safety Guide" enclosed with this manual before installing or operating the VCR.

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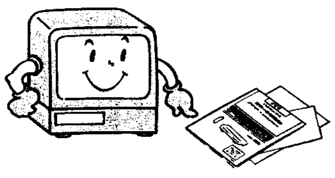
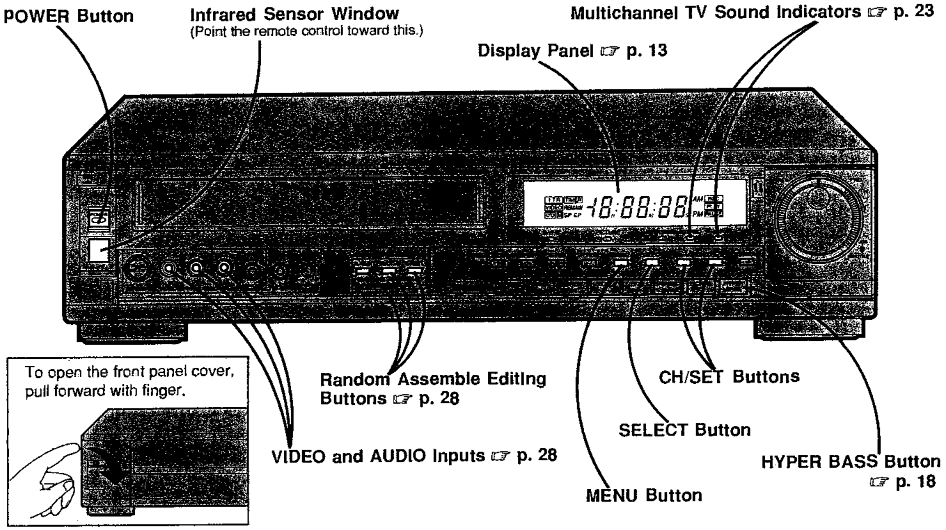
How To Use This Instruction Manual
This instruction manual has been designed with both new and experienced users in mind. The first half offers detailed, step-by-step instructions for setting up your VCR, and on using its basic functions. The second half provides instructions on the many other functions available on your VCR. So just by following the instructions in the "Getting Started" and "Basic Operation" sections of this manual, you can master all of your VCR's basic functions, including timer-recording. Once you're sufficiently familiar with basic operation, or if you're already an experienced video user, you can move on to the more advanced functions introduced on the following pages. Also, towards the end of this instruction manual, there are sections offering supplemental information which you should find helpful in the course of operating your VCR.
Related features have all been clustered together for easy reference, and their categories (playback, recording, timer, etc.) are easily recognizable by the symbol appearing in the page header. If you ever need to refer to another page for instructions or information, you will be told so by a ☞ mark pointing to the page number. Unless otherwise specified, operation buttons mentioned in the instructions refer to those located on the remote control, not those duplicated on the VCR.
Remember, you must use your VCR correctly to fully enjoy it. Please use this manual effectively. It's the surest and quickest way to unlock the full potential of your new JVC VCR.



Keep It Nearby For Easy Reference
This instruction manual, and the other reference materials enclosed with it, contain important information on VCR operation and proper usage. Please keep them near your VCR in a place where you can easily access them for reference.

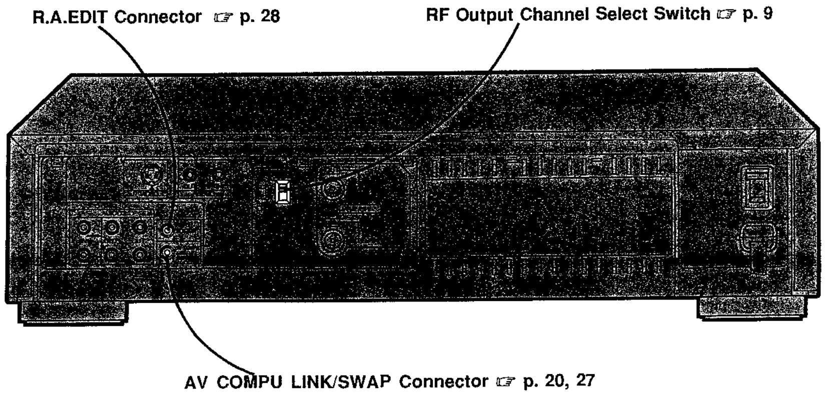
Controls, Indicators, And Connectors

Front Panel

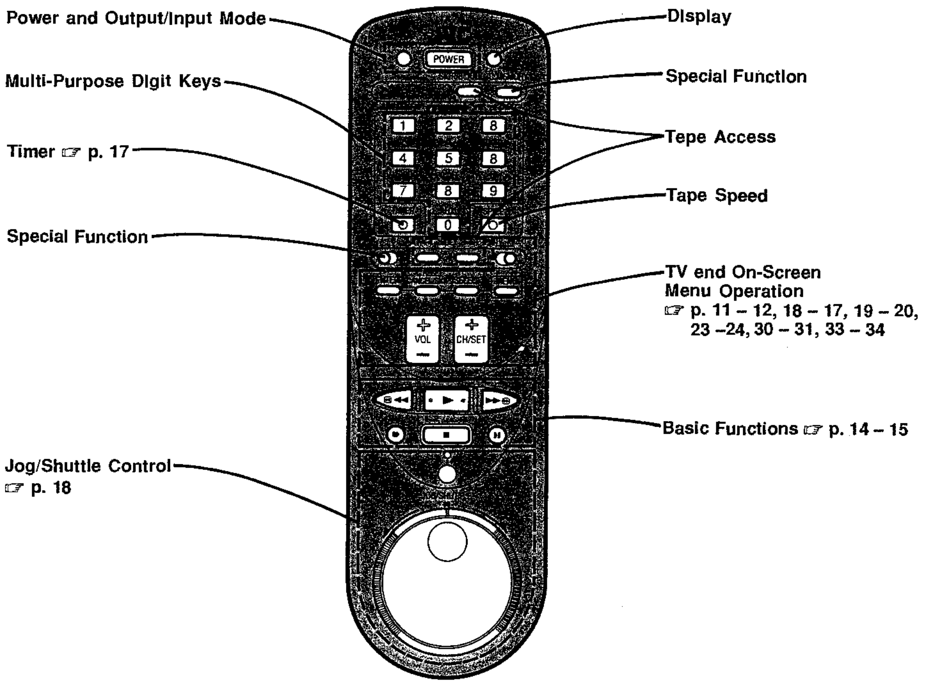

POWER Button
Infrared Sensor Window
(Point the remote control toward this.)
Multichannel TV Sound Indicators ☞ p. 23
Display Panel ☞ p. 13
Random Assemble Editing Buttons ☞ p. 28
CH/SET Buttons
SELECT Button
VIDEO and AUDIO Inputs ☞ p. 28
HYPER BASS Button ☞ p. 18
MENU Button

To open the front panel cover, pull forward with finger.

Back Panel


R.A.EDIT Connector ☞ p. 28
RF Output Channel Select Switch ☞ p. 9
AV COMPU LINK/SWAP Connector ☞ p. 20, 27

Wireless Remote Control


Power and Output/Input Mode
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0
VOL
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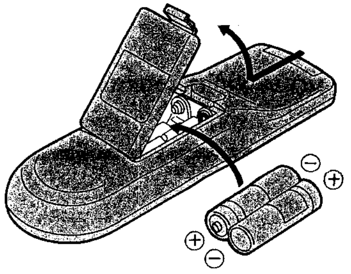


Installing Batteries

1. Slide the battery compartment cover in the direction of the arrow.
2. Insert 2 "AA"-size batteries (provided) in the correct directions.
3. Replace the cover.

How To Use

This remote control can operate most of your VCR's functions.

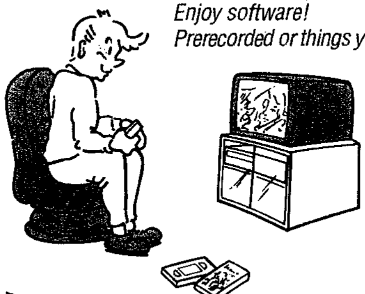
1. Point the remote control toward the VCR's sensor window.
2. Press the appropriate operation button.
   - The maximum operating distance of the remote control is about 8 m (26 ft).

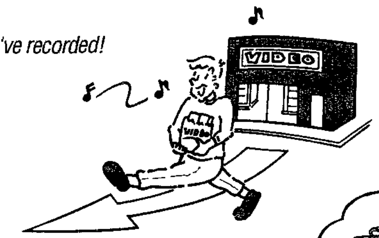
This remote control can also operate TVs of various brands. For instructions, ☞ p. 31.

Getting To Know Your VCR

The 3 Basic Ways Of Using Your VCR

Enjoy software!
Prerecorded or things you've recorded!

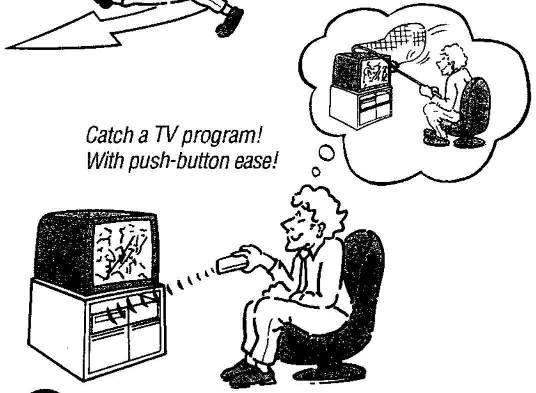


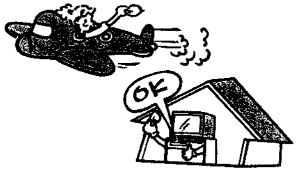


Playback

With this VCR properly hooked-up to your TV set, you'll be able to watch an enormous variety of video software. Enjoy the VHS tapes you already have, and treat yourself to the terrific picture quality of Super VHS tapes. And, thanks to this VCR's Hi-Fi capability, you'll also be able to fully enjoy the powerful Hi-Fi soundtracks available on most prerecorded VHS software.

Catch a TV program!
With push-button ease!

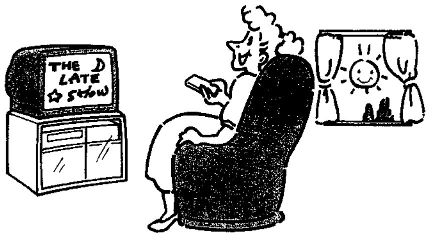




Watch TV programs when you want.
Record TV programs while you're away.

Recording

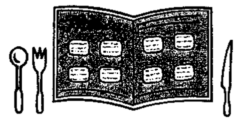
This VCR offers you a choice of recording in either VHS or S-VHS. Thanks to S-VHS's high resolution, you'll be able to record TV programs without any loss of the original picture quality. S-VHS is economical too, because you can record in the longer EP mode and still get excellent picture quality. And any time you need to record in VHS — no problem. Just insert a VHS cassette and you're ready to go.



Timer-Recording

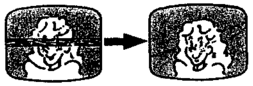
By using the built-in timer, you can set your VCR to record TV programs for you while you're asleep, while you're away, or while you're doing something else. Then you can watch those programs later, whenever it's convenient, whenever you want. This is what's called "timeshifting", and now you can do it the JVC way.

Some Important Functions On Your VCR



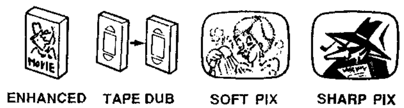
On-Screen Menu System

Do everything from tuner set up to timer-programming while watching bright, easy to see, easy to understand on-screen menus. In English, French or Spanish, accessible via remote control or at the VCR.



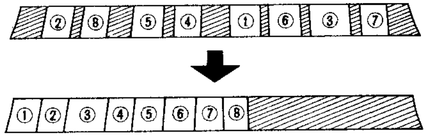
Digital Tracking

Automatically controls video tracking to maintain the best video picture, even with tapes with excessive tracking variations. A must for rental software viewing.



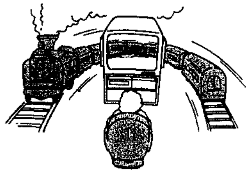
Picture Control

One-touch control over the type of video picture you want. Make it clearer, make it better for dubbing, make it softer, make it sharper — do it all with Picture Control.



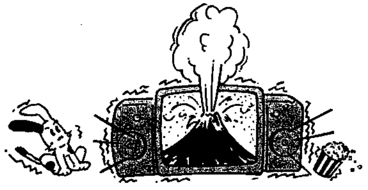
Random Assemble Editing

Lets you create complete, edited videos at the touch of a button. Just specify up to 8 cuts, in any order, and the VCR does the rest.



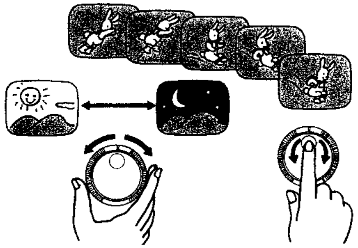
Hi-Fi Stereo Sound

Enjoy films with Hi-Fi stereo soundtracks just as you would in theaters. Use the built-in MTS (Multichannel TV Sound) decoder to record stereo programs in stereo, or to record SAP programs.



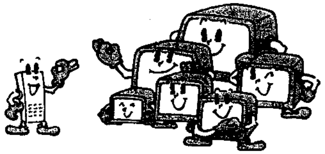
Hyper Bass

Boosts the soundtrack's low frequencies (bass sound) at the touch of a button, for increased enjoyment of action movies, music videos, etc.



Jog/Shuttle Controls

Fast, accurate visual search from slow motion to fast motion, or frame-by-frame search. Useful in editing or playback.



Multi-Brand TV-Compatible Remote Control

Compatible with most major brands of televisions for basic control functions. Put an end to two-handed remote control.

Making The Right Connections

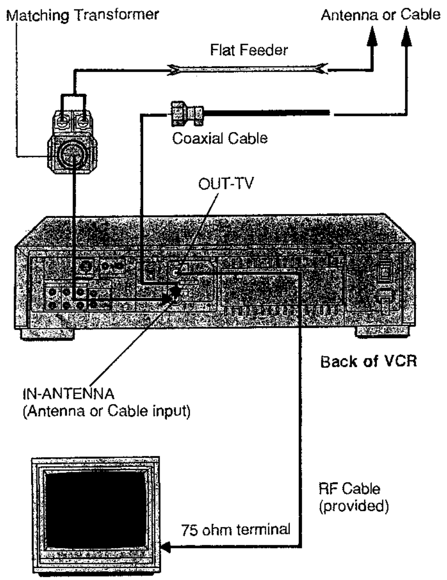
It's essential that your VCR be properly hooked up for proper results. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VCR OPERATION CAN BE PERFORMED.

A VCR-TO-TV CONNECTION

RF CONNECTION

For standard TV sets:

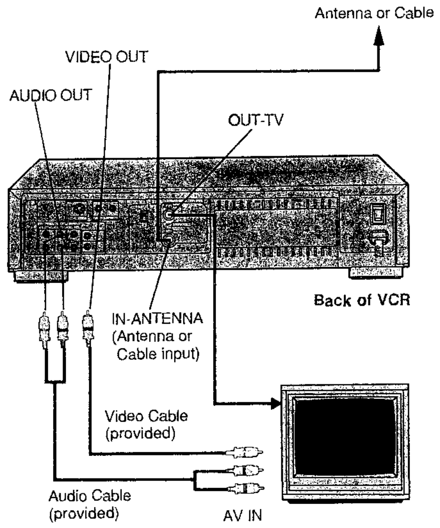
1. Disconnect the TV antenna from the TV.
2. Connect the TV antenna to the VCR.
3. Connect the VCR to the TV's antenna terminal using the provided RF Cable.


Matching Transformer
Antenna or Cable
Flat Feeder
Coaxial Cable
OUT-TV
Back of VCR
IN-ANTENNA
(Antenna or Cable input)
RF Cable
(provided)
75 ohm terminal

AV CONNECTION

For TV sets with AV input terminals:

1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR to the TV's AV-IN terminals.

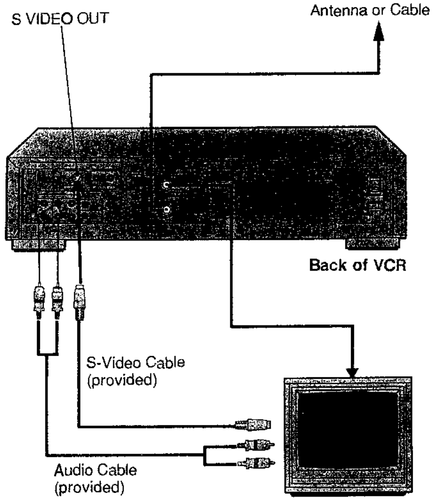

Antenna or Cable
VIDEO OUT
AUDIO OUT
OUT-TV
IN-ANTENNA
(Antenna or
Cable input)
Back of VCR
Video Cable
(provided)
Audio Cable
(provided)
AV IN

NOTE:
Either pair of AUDIO OUT (1 or 2) can be used to connect to the television. Use the other pair to connect to an audio amplifier.

S-VIDEO CONNECTION

For sets with S-VIDEO input terminal:

1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR's S VIDEO OUT terminal to the TV's S VIDEO IN terminal.
3. Connect the VCR's AUDIO OUT terminals to the TV's AUDIO IN terminals.

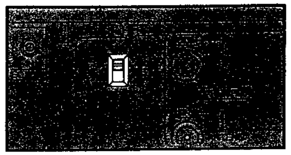

S VIDEO OUT
Antenna or Cable
Back of VCR
S-Video Cable
(provided)
Audio Cable
(provided)

NOTES:

- To make the most of Super VHS picture performance, we recommend you use the S-VIDEO connection.
- To operate the VCR with your TV using the S VIDEO connection, set your TV to the AV mode.

See the "Basic Guide For VCR Connections" sheet enclosed with this instruction manual for more information and other possible connections.
The VCR rear panel illustration in the "Basic Guide For VCR Connections" differs from your VCR. Terminals are labeled and positioned differently. The lower IN-ANTENNA terminal of your VCR corresponds to the upper ANT. IN terminal of the "Basic Guide", and the upper OUT-TV terminal of your VCR corresponds to the lower RF OUT terminal of the "Basic Guide".

B SELECT VCR CHANNEL



With RF Connection

Set this switch to either CH3 or CH4 (the channel not used for broadcasting in your area).

- The OUT-TV terminal sends picture and sound signals to your TV on channel 3 or 4. The sound signal is monaural.
- To operate the VCR via RF connection, set the VCR to the VIDEO mode and your TV's channel to the one you set the VCR to in this step.
- For ordinary TV viewing, set the VCR to the TV mode.

With AV or S-VIDEO Connection

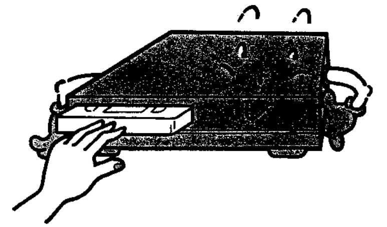
- To operate the VCR via AV or S-VIDEO connection, set your TV to the AV mode.

Handling Video Cassettes

A LOADING A CASSETTE

7 Pull the front panel cover open.

7 Insert a cassette with its label side facing you.
- If the cassette is not loaded firmly, it will be ejected.

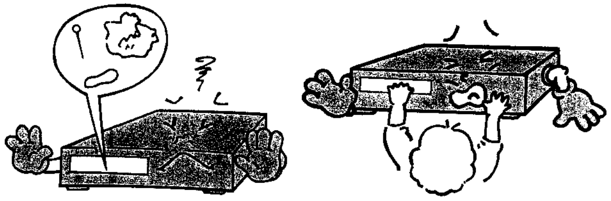


B UNLOADING A CASSETTE

9 Press STOP/EJECT.
- If the cassette will not eject, check to see if the VCR's TIMER indicator is lit. If it is, press the TIMER button to turn it off.

NOTES:
- Be sure to insert the cassette firmly into the slot; otherwise it will be automatically ejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.

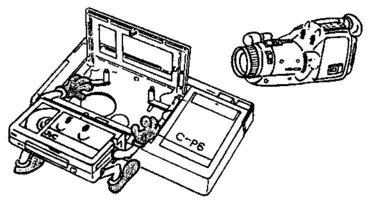
WARNING
- Do not insert fingers or foreign objects into the cassette loading slot since <u>this could lead to injury or damage to the mechanism. Be especially careful with children.</u>
- Do not try to pull out a cassette once automatic loading has started. <u>This could cause injury or damage the mechanism.</u>



Usable Cassettes

Full-Size VHS
T-30 (ST-30**)
T-60 (ST-60**)
T-90
T-120
T-160 (ST-160**)

Compact VHS*
TC-20 (ST-C20**)
TC-30 (ST-C30**)

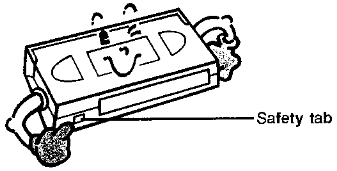


* Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorder cassette into a C-P6 Cassette Adapter and it can be used just like any full-sized VHS cassette.

** This video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

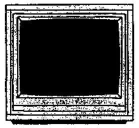
Accidental Erasure Prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.

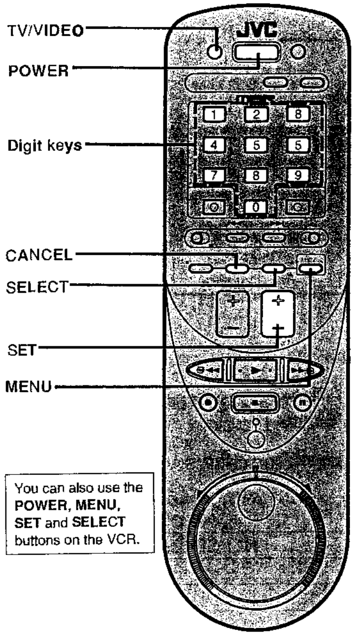


Setting The Clock

Since your VCR bases all of its timer recording start and stop "decisions" on the time kept by its built-in clock, accurate setting of this clock is crucial for proper timer-recording results.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)



You can also use the **POWER, MENU, SET** and **SELECT** buttons on the VCR.

A TURN ON THE VCR

7 Press POWER.

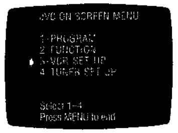
7 Press TV/VIDEO to select the VIDEO mode.
- The VCR's VIDEO indicator should be lit.

B ACCESS THE ON-SCREEN MENU

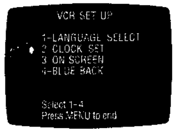
7 Press MENU.

7 Press the 3 key. (VCR Set Up)

7 Press the 2 key. (Clock Set)



```
JVC ON SCREEN MENU

 1-PROGRAM
 2-FUNCTION
▸3-VCR SET UP
 4-TUNER SET UP

Select 1-4
Press MENU to end
```

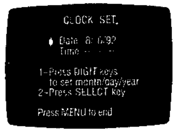


```
VCR SET UP

 1-LANGUAGE SELECT
▸2-CLOCK SET
 3-ON SCREEN
 4-BLUE BACK

Select 1-4
Press MENU to end
```

C INPUT THE MONTH/DAY/YEAR

7 Press the appropriate digit keys.
- Example: For August 6, 1992, press 0 8 0 6 9 2.
  Always enter "0" before single-digit entries.

7 Press SELECT.
- The day of the week will automatically appear.

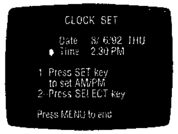


```
CLOCK SET

▸Date  8/ 6/92
 Time  --:--

1-Press DIGIT keys
  to set month/day/year
2-Press SELECT key

Press MENU to end
```

D INPUT THE TIME

9 Press the appropriate digit keys.
- Example: For 2:30 press 0 2 3 0.

9 Press SET to choose AM or PM.



```
CLOCK SET

 Date  8/ 6/92 THU
▸Time  2:30 PM

1-Press SET key
  to set AM/PM
2-Press SELECT key

Press MENU to end
```

E START THE CLOCK

12 Press SELECT.
- Screen turns green to let you know the clock has started.

F RETURN TO THE TV SCREEN

11 Press MENU.

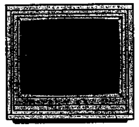
TO MAKE CORRECTIONS

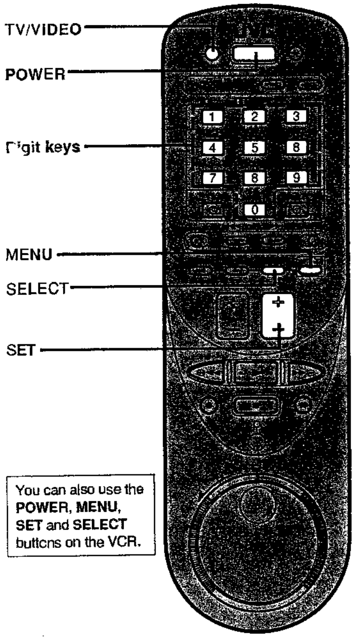
Press CANCEL (repeatedly if needed) during steps C–D to move back to an item you want to change.

ATTENTION:
On-screen menus and messages can be displayed in French or Spanish. For instructions on changing the on-screen language ☞ p.30.

Setting The Tuner

The Auto Set feature introduced here automatically assigns receivable channels in your area to the CHANNEL UP/DOWN button and skips the others so you won't have to go through any "blank" channels to get to the one you want.


POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)


TV/VIDEO
POWER
Digit keys
MENU
SELECT
SET

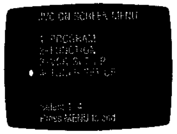
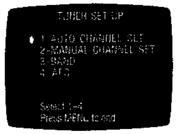
You can also use the **POWER, MENU, SET** and **SELECT** buttons on the VCR.

A TURN ON THE VCR

1. Press POWER.
2. Press TV/VIDEO to select the VIDEO mode.
   - The VCR's VIDEO indicator should be lit.

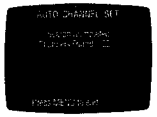
B ACCESS THE ON-SCREEN MENU

1. Press MENU.
2. Press the 4 key. (Tuner Set Up)
3. Press the 1 key. (Auto Channel Set)

C START AUTO SET

1. Press SET.
   - Screen turns green and "Scanning..." is displayed while auto set is in progress.
   - After completion of auto set, the total number of set channels is displayed.



D RETURN TO THE TV SCREEN

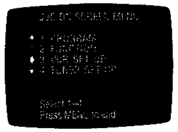
1. Press MENU three times.

TO ADD/DELETE CHANNELS MANUALLY

☞ p.33, 34.

ATTENTION:

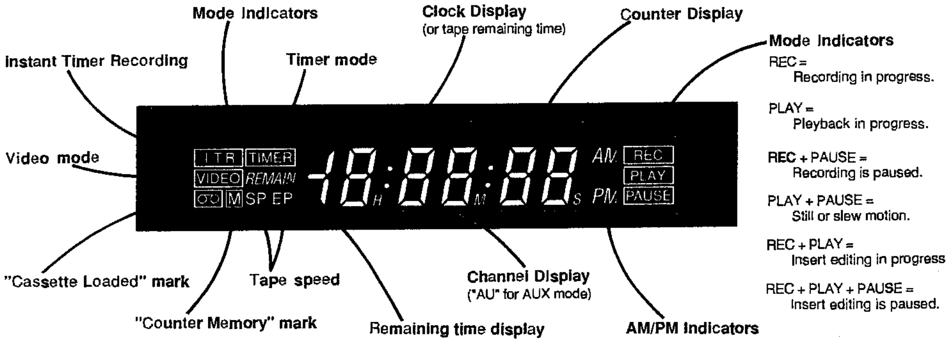
All On-Screen Menu selections can be chosen by pressing the corresponding digit key, or by pressing SET to move the cursor arrow to the correct position and then pressing SELECT.



MODE Mode Displays — What They Mean

Display Panel

Your VCR's multi-function FDP (fluorescent display panel) offers important operation information at a glance.


Mode Indicators
Clock Display
(or tape remaining time)
Counter Display
Instant Timer Recording
Timer mode
Video mode
"Cassette Loaded" mark
Tape speed
"Counter Memory" mark
Remaining time display
Channel Display
("AU" for AUX mode)
AM/PM Indicators
ITR
TIMER
VIDEO
REMAIN
M
SP EP
AM
PM
REC
PLAY
PAUSE
Mode Indicators

REC =
Recording in progress.

PLAY =
Playback in progress.

REC + PAUSE =
Recording is paused.

PLAY + PAUSE =
Still or slow motion.

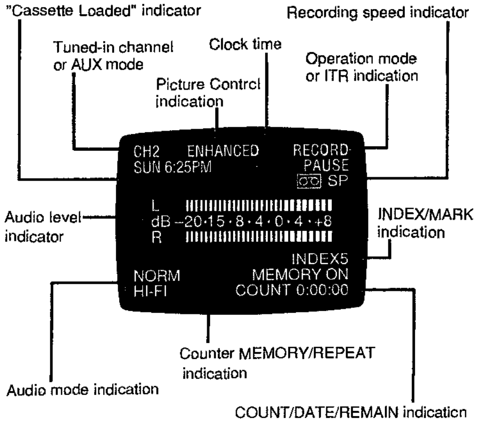
REC + PLAY =
Insert editing in progress

REC + PLAY + PAUSE =
Insert editing is paused.

- **Pressing DISPLAY lets you change the type of display: Counter, Channel, Clock or Remain.**

On-Screen Display

Operation modes are displayed on the TV screen unless the "On-Screen" function is set to "OFF". ☞p.30.


"Cassette Loaded" indicator
Recording speed indicator
Tuned-in channel
or AUX mode
Clock time
Operation mode
or ITR indication
Picture Control
indication
CH2 ENHANCED RECORD
SUN 6:25PM PAUSE
SP
L
dB -20·15·8·4·0·4·+8
R
INDEX5
NORM MEMORY ON
HI-FI COUNT 0:00:00
Audio level
indicator
INDEX/MARK
indication
Counter MEMORY/REPEAT
indication
Audio mode indication
COUNT/DATE/REMAIN indication

AUTOMATIC INDICATION

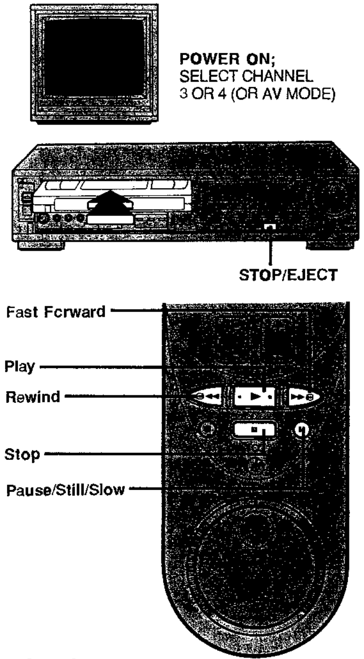
- **Channel**
  When the channel is changed, the new channel is displayed on the screen for 5 seconds.
- **Operation mode**
  When the operation mode is changed, the new mode is displayed — RECORD (5 sec.), PLAY (5 sec.), FF/REW (5 sec., when engaged from Stop mode), and RECORD PAUSE (for as long as Pause is engaged).
- **"Cassette Loaded" mark**
  When a cassette is loaded the mark is displayed for 5 seconds. It blinks when EJECT is pushed.

MANUAL RECALL

1. Press ENTER.
   - All indications corresponding to the current status are displayed for 5 seconds, leaving the counter information (COUNT, DATE or REMAIN) on the screen.
   - To check only the counter information, press DISPLAY.
2. Press ENTER again to clear the display.

► Playback

The easiest, most basic operation possible with your VCR is tape playback. Already-recorded signals on a video tape are read by your VCR and displayed en your TV just like a TV program.



A LOAD A CASSETTE

1 Insert a cassette.
- The VCR power will oome on automatically.
- If the safety tab on the cassette is removed, playback will start automatically.

B TO START PLAYBACK

1 Press ► (Play).
- The VCR mode is automatically set and the VIDEO indicator will light.

C TO STOP PLAYBACK

1 Press ■ (Stop).

D TO REWIND OR FAST-FORWARD

1 Press ◄◄ to rewind the tape.
1 Press ►► to fast-forward the tape.
- Press ■ to stop the tape.

E TO EJECT THE TAPE

1 Press the VCR's STOP/EJECT button.

High-Spoed Forward And Reverse Search

During Playback:

1 Press ►► for high-speed forward search.
2 Press ◄◄ for high-speed reverse search.
3 Press ► to resume normal playback.
- For short searches, keep ◄◄ or ►► pressed for more than 2 seconds. When released, normal playback will continue.

Still Playback And Frame Advance

During Playback:

1 Press ▮▮ (Pause/Still/Slow) to view a still picture.
2 Press again to advance the picture frame by frame.
3 Press ► to resume normal playback.

Slow Motion

You can view pictures in slow motion in the forward direction using the ▮▮ button.

During Playback:

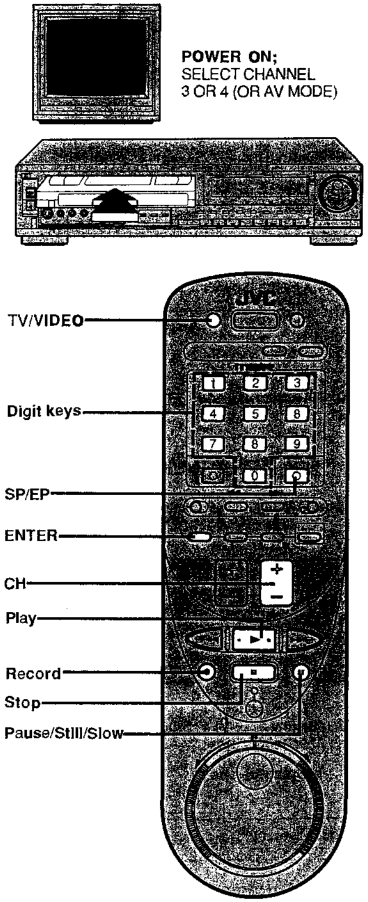
1 Press ▮▮ for two seconds. Tape will play back in slow mction.
- Press ▮▮ again for a still picture.
- Press ► to resume normal playback.

NOTES:

- Tapes with monaural soundtracks (normal audio) are automatically played back in the NORM mode. When playing back tapes with Hi-Fi stereo soundtracks, ☞p.20.
- If the end of the tape is reached during play or search, it is automatically rewound to the beginning and stops.
- The VCR automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable, use the VCR's CH –/+ buttons to correct the picture.
- During search playback, some noise bars will appear.
- If noise bars appear during playback, correct using manual tracking, ☞ p.19.
- There is no audio during search, slow, still, or frame-by-frame playback.
- Picture loss will occur when search, still, or frame-by-frame is attempted with LP-mode recorded tapas. Press ► to return to normal playbaok and restore the picture.

● Recordiog

TV signals being received by the VCR's built-in tuner can be recorded onto a video tape. This is realtime video recording.



A LOAD A CASSETTE

1 Insert a cassette with the safety tab in place.
- The VCR pcwer will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B CHOOSE A PROGRAM

1 Press CH (CHANNEL) +/–, or the digit keys followed by ENTER,to select the channel you wish to record.
- Even if you don't press ENTER, the channel will automatically be changed in about 2 seconds.

C SET THE TAPE SPEED

1 Press SP/EP.

D TO START RECORDING

1 Press ● (Record) and ► simultaneously.

E TO PAUSE RECORDING

1 Press ▮▮.
1 Press ► to resume recording.

F TO STOP RECORDING

1 Press ●.

To Watch Anotber Program While Recording

During Reoording:

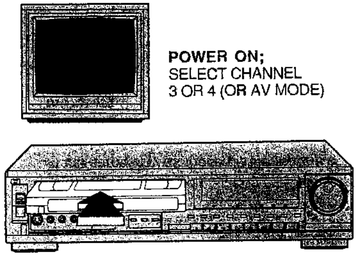
1 Press TV/VIDEO. The VCR's VIDEO indicator and the TV brcadcast being recorded will disappear.
2 Use the channel controls on the TV to select the other channel you wish to view.
- The prcgram selected with the TV channel controls will appear on the TV screen while the one selected with the VCR channel oontrols will be recorded on the tape.

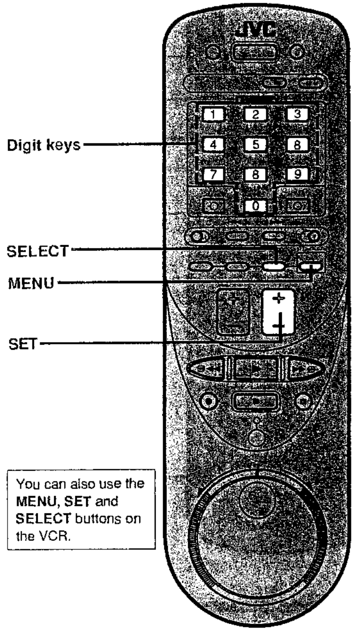
NOTES:

- Tc start recording with the VCR's REC button, press it once on its cwn. Pressing REC more than once activates the Off-Timer. ☞ p.22.
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The VCR automatically stops when record-pause continues fcr more than 5 minutes.
- If the end of the tape is reached while recording, it is automatically rewound to the beginning and stops.
- If the ● (Record) button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, press ▮▮, then change the channel.
- For SAP reoording, ☞ p.23.

Timer-Recerding

The on-soreen timer programming method introduced here is the most oomprehensive and versatile of those possible with your VCR. You can program up to 8 recordings over a 1 year period. TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.


POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)


Digit keys
SELECT
MENU
SET

You can also use the **MENU, SET** and **SELECT** buttons on the VCR.

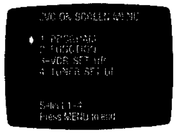
A LOAD A CASSETTE

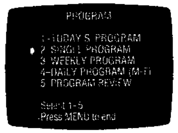
5 Insert a oassette with the safety tab in place.

- The VCR power will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B ACCESS THE ON-SCREEN MENU

6 Press MENU.
6 Press the 1 key. (Program)
6 Press the 2 key. (Single Program)


JVC ON SCREEN MENU
1 PROGRAM
2 CLOCK
3-VCR SET UP
4 TUNER SET UP
Select 1-4
Press MENU to end


PROGRAM
1-TODAY'S PROGRAM
2 SINGLE PROGRAM
3 WEEKLY PROGRAM
4-DAILY PROGRAM (M-F)
5 PROGRAM REVIEW
Select 1-5
Press MENU to end

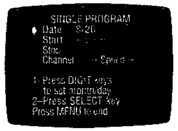
C INPUT THE PROGRAM'S DATE

6 Press the appropriate digit keys.

- Example: For August 26, press 0 8 2 6.
  Always enter "0" before single-digit entries.

6 Press SELECT.

- The day of the week will automatioally appear.

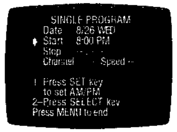

SINGLE PROGRAM
Date 8/26
Start
Stop
Channel -- Speed --
1-Press DIGIT keys
to set month/day
2-Press SELECT key
Press MENU to end

D INPUT THE REC START TIME

9 Press the appropriate digit keys.

- Example: For 8:00, press 0 8 0 0.

9 Press SET to choose AM or PM.
9 Press SELECT.

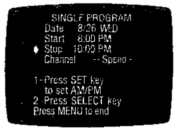

SINGLE PROGRAM
Date 8/26 WED
Start 8:00 PM
Stop
Channel -- Speed --
1 Press SET key
to set AM/PM
2-Press SELECT key
Press MENU to end

E INPUT THE REC STOP TIME

12 Press the appropriato digit keys.

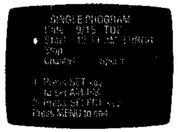
- Example: For 10:00, press 1 0 0 0.

12 Press SET to choose AM or PM.
12 Press SELECT.

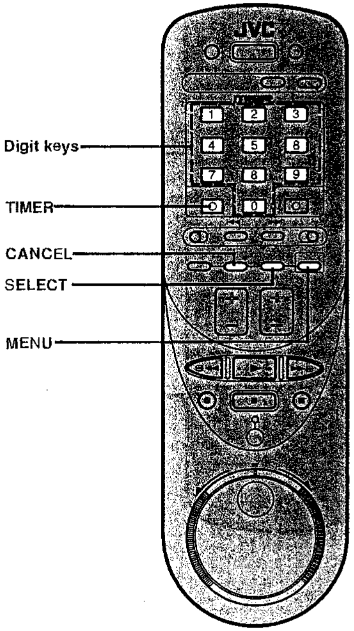

SINGLE PROGRAM
Date 8/26 WED
Start 8:00 PM
Stop 10:00 PM
Channel -- Speed -
1-Press SET key
to set AM/PM
2 Press SELECT key
Press MENU to end

"ERROR" WARNING

If the start time you input has already passed (i.e. is prior to the present date and time), the VCR will flash "ERROR" on the Program Set screen.


SINGLE PROGRAM
ERROR
Press MENU to end

Check if you've input the correct time and date. Remember: late night shows beginning at midnight or later must have the next day's date.


Digit keys
TIMER
CANCEL
SELECT
MENU

TO DISENOAGE THE TIMER

For safety, your VCR disables all other functions while in the timer mode.

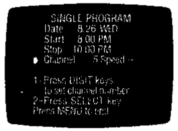
- To use your VCR, first disengage the timer mode by pressing TIMER again. Now all functions will be operable.
- To re-engage the timer, press TIMER.

F INPUT THE CHANNEL NUMBER

12 Press the appropriate digit keys.

- Example: Fcr channel 5, press 5.

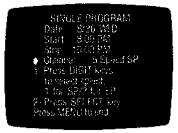
14 Press SELECT.


SINGLE PROGRAM
Date 8/26 WED
Start 8:00 PM
Stop 10:00 PM
Channel 5 Speed --
1-Press DIGIT keys
to set channel number
2-Press SELECT key
Press MENU to end

G SELECT THE TAPE SPEED

12 Press the 1 key for SP, 2 for EP.
12 Press SELECT.

- Screen turns green to let you know that programming is completed.


SINGLE PROGRAM
Date 8/26 WED
Start 8:00 PM
Stop 10:00 PM
Channel 5 Speed SP
1 Press DIGIT keys
to select speed,
1 for SP/2 for EP
2-Press SELECT key
Press MENU to end

H RETURN TO THE TV SCREEN

12 Press MENU three times.

I SET TO TIMER MODE

12 Press TIMER.

- The VCR will enter the timer mode and power will gc off.

TO MAKE CORRECTIONS

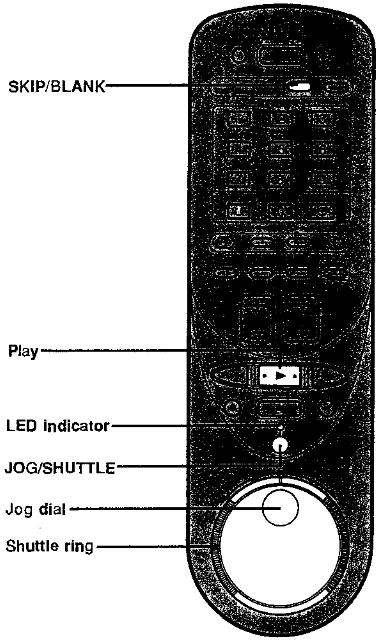
Press CANCEL (repeatedly if needed) during steps C–F to move back to an item you want to change.

For other timer programming methods ☞ p.24.
Any questions? ☞ p.25.

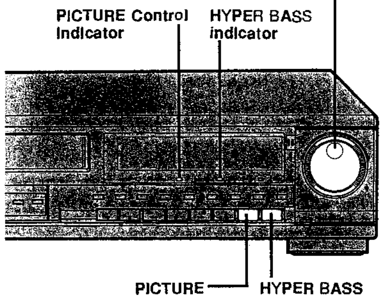
NOTE:

- To timer-record oable channels received through the Converter Box, input the Converter Box's output channel (e.g. 3) in step 13. Select the channel you wish to record at the Converter Box and keep the Converter Box set to ON.

For Playback


SKIP/BLANK
Play
LED indicator
JOG/SHUTTLE
Jog dial
Shuttle ring

The VCR's Jog/Shuttle controls function in the same way as those on the remote control.


PICTURE Control Indicator
HYPER BASS indicator
PICTURE
HYPER BASS

NOTE:

- Although the HYPER BASS indicator lights when the button is pressed, its effects cannot be heard when playing monaural tapes or when Audio Monitor is set to NORM. ☞ p.20.

Variable-Speed Search, Slow Motion, And Jog Control

You can view pictures in slow to fast motion, or frame-by-frame.

During Still or Play:

1. Press JOG/SHUTTLE.
   - The LED indicator will light.
2. Turn the outer ring (Shuttle) in either direction. The farther the ring is turned, the faster the search speed. Releasing the ring stops the search and provides a still picture.

During Still or Play:

1. Make sure that the LED indicator is lit.
   - If not, press JOG/SHUTTLE.
2. Rotate the inner dial (Jog) in either direction for jog control. The tape moves forward or backward frame-by-frame at the speed with which the dial is rotated.

To resume normal playback, press the PLAY button.

NOTE:

- During variable-speed search, some noise bars will appear.

Skip Search

Your VCR offers a simple way of skipping over unwanted sections of recorded TV programs.

During Playback:

1. Press SKIP/BLANK from 1 to 4 times.
   This fast-motions through 30-sec. to 2-min. of tape.
   - Playback resumes automatically.
   - Press ► to cancel a Skip Search midway.

Picture Control

Your VCR has a built-in video processor that lets you choose the type of playback picture that's best for any given application. The VCR's PICTURE Control indicator lights when this function is activated.

During Playback:

1. Press the VCR's PICTURE button as many times as required to reach the desired setting.

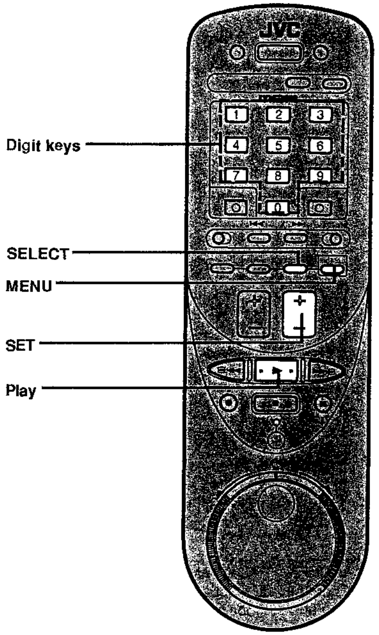
On-Screen Display	When To Use
ENHANCED	When viewing tapes with noise due to repeated playback, such as rental videos.
TAPE DUB	When editing to another VCR.
SOFT PIX	When you want a soft picture.
SHARP PIX	When you want a sharp picture.
OFF	When no modification is required.

Hyper Bass

Lower frequencies (bass sound) can be boosted instantly.
You can make Hi-Fi VHS movie software, etc. sound more dynamic.

During Playback or Stop:

1. Press the HYPER BASS button on the VCR.
   - The HYPER BASS indicator will light.
   - To turn it off, press HYPER BASS again.

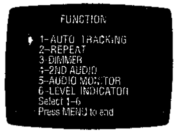

JVC
Digit keys
SELECT
MENU
SET
Play

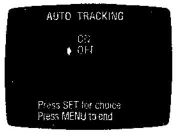
Manual Tracking

Your VCR is equipped with video/Hi-Fi audio automatic tracking control. If you wish to adjust tracking manually, you can override this function.

During Playback or Stop:

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 1 key. (Auto Tracking)
4. Press SET to choose OFF.
5. Press MENU to end.
6. Press SET (– or +) to adjust tracking when required during playback.
   - Reset Auto Tracking to ON when you wish to re-engage automatic tracking.


FUNCTION
1-AUTO TRACKING
2-REPEAT
3-DIMMER
4-2ND AUDIO
5-AUDIO MONITOR
6-LEVEL INDICATOR
Select 1–6
Press MENU to end


AUTO TRACKING
ON
OFF
Press SET for choice
Press MENU to end

During Slow:

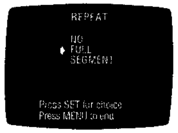
1. Press SET (– or +) to adjust tracking.
   - Since automatic tracking is not effective during slow motion, there is no need to set Auto Tracking to OFF.

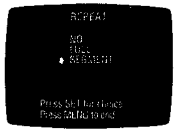
Repeat Playback

Your VCR can automatically play back the whole tape or an index-marked portion 5 times repeatedly.

During Stop:

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 2 key. (Repeat)
4. Press SET to choose NO, FULL, or SEGMENT repeat.
5. Press MENU to end.
6. Press ►. Repeated playback will start. After playback 5 times consecutively, playback will stop.
   - Be sure to reset Repeat to NO before pressing ► again because this will re-start repeat playback.

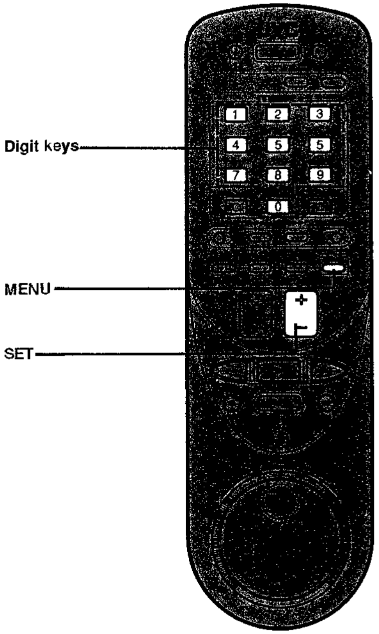

REPEAT
NO
FULL
SEGMENT
Press SET for choice
Press MENU to end


REPEAT
NO
FULL
SEGMENT
Press SET for choice
Press MENU to end

NOTE:

- The settings for all on-screen accessed functions (Auto Tracking, Repeat, Dimmer, 2nd Audio, Audio Monitor, Level Indicator) remain unchanged unless deliberately changed by the user; settings do not reset automatically when VCR power is turned off and turned on again.

▶ For Playback (cont'd)

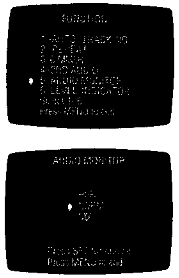


Soundtrack Selection

Your VCR is capable of recording two soundtracks (Hi-Fi and NORMAL) simultaneously, and playing back the selected soundtrack or two together.

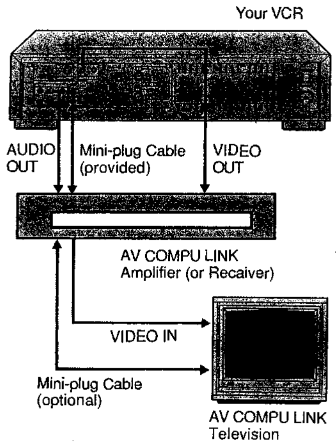
During Playback or Stop:

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 5 key. (Audio Monitor)
4. Press SET to choose HI-FI, NORM, or MIX.
   - HI-FI to listen to the Hi-Fi soundtrack.
   - NORM to listen to the normal soundtrack.
   - MIX to listen to both soundtracks combined. Select this setting when playing back edited tapes with insert edits or dubbed audio made on an appropriately equipped VCR.
5. Press MENU to end.



NOTES:

- You do not have to set to NORM when playing back tapes with normal soundtrack only.
- When MIX is selected, both "HI-FI" and "NORM" appear on the TV screen when the ENTER button is pressed.

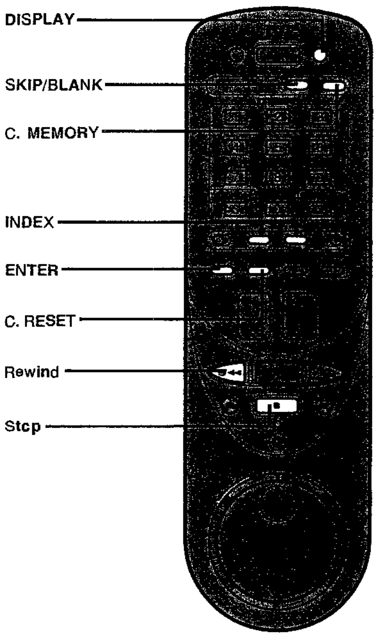

Your VCR
AUDIO OUT
Mini-plug Cable (provided)
VIDEO OUT
AV COMPU LINK Amplifier (or Receiver)
VIDEO IN
Mini-plug Cable (optional)
AV COMPU LINK Television

AV COMPU LINK Playback

Your VCR is compatible with JVC's AV COMPU LINK components which include amplifiers (or receivers) and televisions.
Connect your VCR to an AV COMPU LINK amplifier and an AV COMPU LINK television as illustrated. AV COMPU LINK video playback is as easy as this:

- Simply load a cassette in your VCR and press PLAY. (If the cassette's safety tab has been removed, even this "touch" is not necessary.) The amplifier and TV turn on automatically and the TV's mode is automatically set to VIDEO; you're already watching!

◀◀ ▶▶ For Tape Access



Index Search

This function gives you quick access to any one of 9 index codes in either direction. Your recorder automatically marks index codes at the beginning of each recording.

During Playback or Stop:

1. Press INDEX ▶▶I or I◀◀. "INDEX 1" or "INDEX −1" will be displayed and search will begin in the corresponding direction.
2. If you wish to access index codes 2 through 9, press INDEX repeatedly until the correct index number is displayed.
   - When the specified index code is found, playback will start automatically.

Blank Search

This function lets you quickly locate the blank portion of a partially recorded tape.

During Stop:

1. Press SKIP/BLANK.
   - The VCR automatically fast-forwards or rewinds to the end of the recorded portion of tape, and stops.
   - Pressing DISPLAY repeatedly changes the VCR's displayed indication (Counter → Channel → Clock time → Remaining time).

Realtime Tape Counter

Your VCR's tape counter displays the hours, minutes, and seconds of a taped program. As long as a tape is loaded, your VCR's display panel will show a counter reading unless you change it using the DISPLAY button. To reset the counter to "0H 00M 00s" at any time, press C. RESET. Also, the counter is automatically reset whenever you load a new cassette.

- Pressing DISPLAY repeatedly changes the VCR's displayed indication. (Counter → Channel → Clock time → Remaining time).

Counter Memory

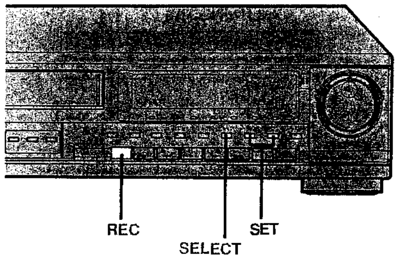
During Playback:

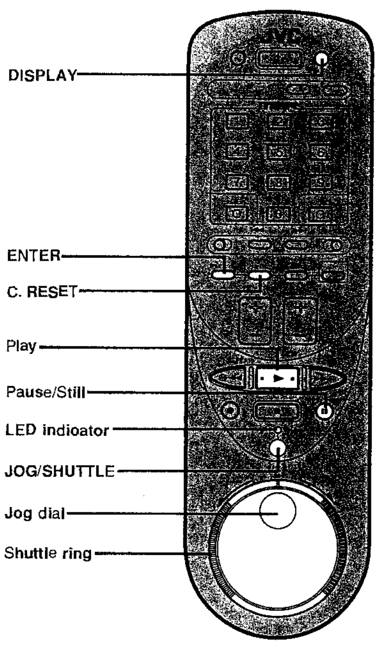
1. Press C. RESET at a point you wish to locate later.
   - The counter will read "0H 00M 00s".
2. Press C. MEMORY.
   - Counter Memory " M " mark is displayed.
3. When you wish to return to that point, press ■ and then press ◀◀.
   - The tape will rewind and stop at about "0H 00M 00s" automatically.
4. To cancel the Counter Memory mode, press C. MEMORY.

NOTES:

- Press ▶ or ■ to cancel Index Search or Blank Search.
- If the end of the tape is reached during Index Search, the mode is cancelled and the tape is rewound to the beginning.
- If the end of the tape is reached during Blank Search, the tape stops and "REMAIN 0:00" is displayed.
- When a fully recorded tape is used for re-recording new material, Blank Search can be used to detect the end of the new material.

For Recording





Instant Timer Recording (Off Timer)

You can start a recording and then set the VCR to shut off automatically after a set duration.

During Recording:

1. Press the REC button on the VCR. A "0:30" indication appears, advising that power will switch off after 30 minutes.
2. Press REC again to delay the off-time by 30-minute increments (up to 9 hours).
   - For a more precise setting, use the SELECT/SET buttons to set the exact time required (possible up to 9 hours and 59 minutes).
   - This function is available only using the REC button on the VCR.

Retake

You can cut out unwanted parts of a TV program while you're recording it.

During Recording:

1. Press ❚❚.
2. Turn the JOG dial or SHUTTLE ring in either direction.
   - When using the remote control unit, first press the JOG/SHUTTLE button so that the LED indicator lights.
   - Release the dial or ring to return to the Record-Pause mode.
3. Press ▶ when you wish to resume recording.

Elapsed Recording Time Indication

When you need to know the exact time of a recording.

1. Press C. RESET before starting recording.
   - The counter will be reset to "0H 00M 00S", and will show the exact elapsed time as the tape runs.
2. Press ENTER at any time to check the elapsed time on the TV screen.
3. Press ENTER again to clear it from the screen.

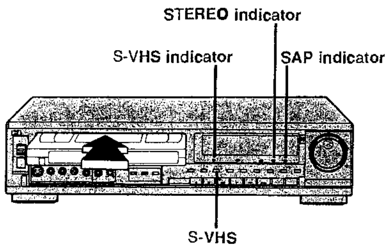
Remaining Tape Time Indication

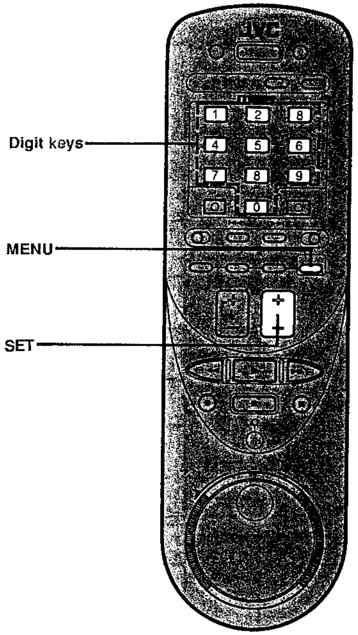
When you need to know the tape's remaining time.

1. Press DISPLAY until "REMAIN" appears. Approximate remaining tape time appears on the VCR display panel.
   - Pressing DISPLAY repeatedly changes the VCR's displayed indication (Counter → Channel → Clock time → Remaining time).

NOTES:

- If the end of the tape is reached during Instant Timer Recording, the cassette is automatically ejected and VCR power is switched off. MAKE SURE THERE ARE NO OBSTRUCTIONS PREVENTING THE FRONT PANEL COVER FROM OPENING since this may damage the mechanism.
- With Retake, rainbow noise may occur in the rewound and re-recorded section.
- The Remaining Tape Time is calculated based on the tape speed (SP or EP) being used. The indicated remaining time is only approximate.





S-VHS (Super VHS) And VHS

Your VCR can record in either S-VHS or VHS.

- To record in S-VHS, insert a cassette marked "S-VHS". The S-VHS indicator will light and the S-VHS recording mode is automatically selected.
- To record in VHS, insert a cassette marked "VHS". The VHS recording mode is automatically selected.
- You can also record in VHS on S-VHS cassettes. For this purpose, after inserting an S-VHS cassette, press the S-VHS button. The S-VHS indicator will go out.

Stereo And SAP (Second Audio Program)

Your VCR is equipped with an MTS decoder for reception of Multichannel TV Sound broadcasts.

- When a stereo program is being received, the STEREO indicator lights.
- When an SAP program (such as a bilingual broadcast) is being received, the SAP indicator lights.
- When a stereo program is accompanied by SAP audio, both indicators light.

To Record Stereo Programs

Stereo programs are automatically recorded in stereo on the Hi-Fi audio track. No special operation is required. Simply follow the basic recording procedure.

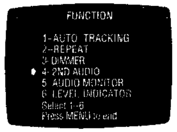
- To listen to the stereo soundtrack while recording, set the on-screen AUDIO MONITOR to "HI-FI". ☞p.20

To Record SAP Programs

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 4 key. (2nd Audio)
4. Press SET to choose ON.
5. Press MENU to end.

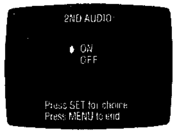
Then follow the basic recording procedure.

- If an SAP program is received, the SAP audio will be recorded on both the Hi-Fi and the normal audio tracks. The main audio program will not be recorded.
- If a regular program (non-SAP) is received, the main audio will be recorded on both the Hi-Fi and the normal audio tracks.



FUNCTION

1-AUTO TRACKING
2--REPEAT
3-DIMMER
● 4-2ND AUDIO
5 AUDIO MONITOR
6 LEVEL INDICATOR
Select 1--6
Press MENU to end



2ND AUDIO

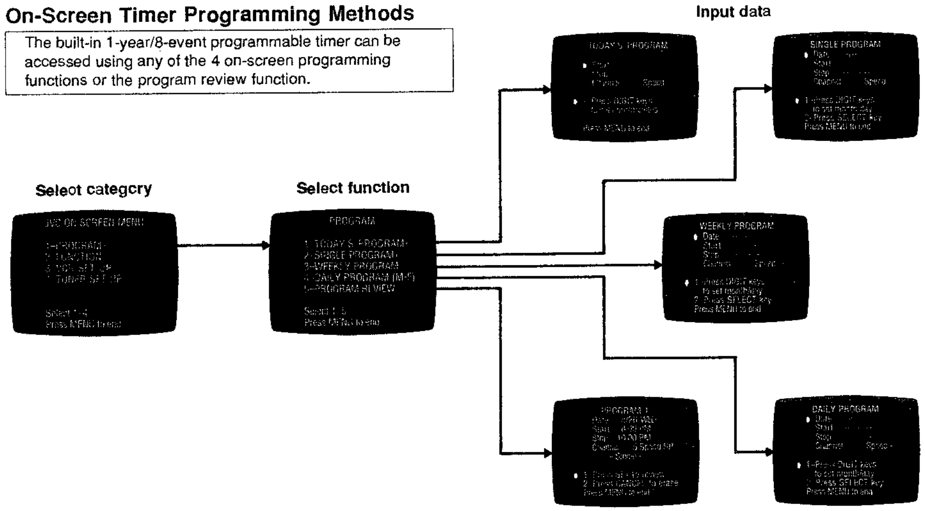
● ON
OFF

Press SET for choice
Press MENU to end

For Timor-Rocording

On-Screen Timer Programming Methods

The built-in 1-year/8-event programmable timer can be accessed using any of the 4 on-screen programming functions or the program review function.



Today's Program

This function offers an easier way to program the VCR to timer-reccrd a TV program that begins within 24 hours.

1 Press MENU.
2 Press the 1 key. (Program)
3 Press the 1 key. (Today's Program)

- Subsequent steps are the same as steps D - H of "Single Program". ☞ p.16–17.

Weekly Program

This function lets you set the VCR to timer-record at the same time on the same day every week. Use it to record weekly serials.

1 Press MENU.
2 Press the 1 key. (Program)
3 Press the 3 key. (Weekly Program)

- Subsequent steps are the same as steps C - H cf "Single Program". ☞ p.16–17.

Daily Program

This function lets ycu set the VCR to timer-record at the same time everyday, Monday through Friday. Use it record daily serials (like soaps), news, etc.

1 Press MENU.
2 Press the 1 key. (Program)
3 Press the 4 key. (Daily Program)

- Subsequent steps are the same as steps C - H cf "Single Program". ☞ p.16–17.

Program Review

You can check the contents cf the VCR's timer memory using this function. Executed programs are automatically cleared from memcry (except those for daily and weekly serials). If the entire 8-event memory is full, check the preset programs and cancel one or more to make rcom for the new program(s) you wish to input.

Make sure the timer mode is disengaged first. Then . . .

1 Press MENU.
2 Press the 1 key. (Program)
3 Press the 5 key. (Program Review)
4 Press SET to review preset programs.
5 Press CANCEL tc erase the program displayed on the screen frcm memory.
   - Repeat steps 4 and 5 as necessary.
6 Press MENU to end.

Things You Should Know

Timer-recording is one of the most useful functions of your VCR, and, if you dcn't understand it, it can be one of the most ccmplicated too. Although JVC's on-screen programming is designed to make timer programming easier to understand and easier to do, please read the following to get a clear idea about why things work the way they work, and what you should do when things don't work as expected.

Error Indications

The following error indications may appear on the VCR when you press the TIMER button to engage the timer mode. Here's why, and what you should do.

INDICATION	WHY	WHAT TO DO
"TIMER" and "▣" on the display panel continue blinking.	There is no cassette in the VCR.	Insert a cassette.
The cassette is automatioally ejected. "TIMER" and "▣" continue blinking.	The inserted cassette has its safety tab removed.	Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. ☞p.10.
"TIMER" blinks fcr 10 seconds and the timer mode is cancelled.	There are no preset programs in memory, or they have all been inccrrectly preset.	Check the programmed data and re-program it as necessary. Press TIMER again.

Other Indications

INDICATION	WHY
"TIMER" steady lit (with clock display).	The VCR is in the timer mode. This is the normal display you should see when you press the TIMER button.
"REC" and "TIMER" on the display panel.	Normal display while timer-recording is in progress.
The cassette is ejected, power is shut off and "TIMER" and "▣" are blinking.	This means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.
"12:00 AM" is blinking.	This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the VCR's power plug was pulled from the AC outlet. To set the clock. ☞p.11. If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

Some Facts On Timer Operation

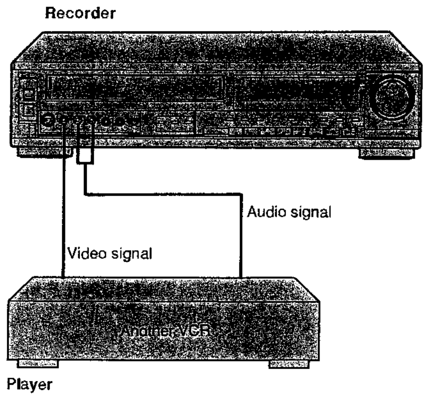
- When timer-recording is successfully completed, the VCR power is automatically switohed off.
- Since the timer starts and stops reccrding based on the time being kept by the VCR's built-in clock, the clock's time must be accurate for ccrrect timer-reccrding results.
- When you prcgram the timer while viewing a program or a tape, the TV screen will show the cn-screen menu but the audic will ccntinue to be heard.
- You can alsc program the timer while the VCR is recording; the cn-screen menu will not be reccrded on tape.

CAUTION:

Since the VCR ejects the cassette whenever the tape's end is reached before timer-reccrding is completed, MAKE SURE THERE ARE NO OBSTRUCTIONS THAT WOULD PREVENT THE FRONT PANEL COVER FROM OPENING.

For Editing

Your VCR can be used as either the recording deck or the source player when editing tapes.



Editing From Another VCR

When used as the recording deck, you can use either the rear VIDEO IN and AUDIO IN connectors, or the front input connectors. The front connectors also include an S-VHS connector. For permanent connection, we recommend you use the rear panel connectors so that the front panel connectors are open for occasional connection to other components such as a camcorder.

- Front panel connections have priority.
- If connections are made to both the front VIDEO and S-VHS connectors, the S-VHS connection has priority.

PREPARATION

1 Connect the player's VIDEO OUT and AUDIO OUT connectors to your VCR's VIDEO IN (or S-VHS IN) and AUDIO IN connectors.
  - With monaural players, use your VCR's AUDIO L (MONO) connector.

2 Set the VCR's input mode to AUX by pressing digit key "0"."AU" will appear instead of a channel number.

FOR ASSEMBLE EDITING

Assemble editing adds one recorded scene to another in succession.

3 Load the source tape in the player, and the recording tape in your VCR.

4 Select the recording speed (SP or EP).

5 Put your VCR in the Record-Pause mode.

6 Play back the source tape to search for a scene to be edited.

7 Press the recorder's PLAY button where you want to start editing.

8 Press the recorder's PAUSE button to stop editing.

9 Repeat steps 6 through 6 to continue editing.

NOTES:

- Insert editing is not possible with cassettes whose safety tab has been removed.
- Insert editing cannot be started from a non-recorded segment.
- In insert editing, the recording speed (SP/EP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.
- To stop insert editing automatically, first determine the edit-out point on the recording tape (the end of the segment to be replaced) and press the remote control's COUNTER RESET button. Then follow steps 4 through 7 in "Insert Editing"; insert editing will stop automatically at the counter reading of 0: 00: 00.

FOR INSERT EDITING

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged.

3 Load the source tape in the player, and the recording tape in your VCR.

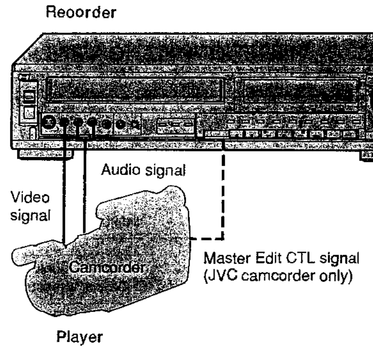
4 Play back the recording tape and engage the Still mode at the edit-in point (the beginning of the segment to be replaced).

5 Press INSERT.
  - Your VCR enters the Insert-Pause mode. (REC, PLAY and PAUSE are displayed on the FDP.)
  - The TV screen changes from the still picture to the input signal you are going to record.

6 Play back the segment of the source tape to be inserted.

7 Press PLAY.
  - Insert editing will start. (REC and PLAY are displayed on the FDP.)

8 Press PAUSE to stop insert editing.
  - Do not press STOP to stop insert editing, otherwise the picture will be distorted at the switching point between the newly inserted and previously recorded pictures.



Editing To Another VCR

When used as the source player in combination with another video deck which is preroll-capable and equipped with a Pause Control Output terminal, your VCR's front REMOTE PAUSE terminal can be used for synchronized preroll editing. For more information refer to the instruction manual of the relevant model.

NOTES:

- When using your VCR as a playback deck, select the TAPE DUB mode with the PICTURE button. ☞ p.18
- If you do not want to record on-screen messages on the edited tape, cancel the on-screen display. ☞ p.30

Swap Editing

Your VCR is equipped with a SWAP terminal. When combined with a swap-control-capable VCR such as the JVC HR-S10000U, editing will be made easier. For more information about swap connection and swap control, refer to the instruction manual of the swap-control-capable VCR.

Editing From A Camcorder

Tape-to-tape editing is also possible using a camcorder (equipped with playback facility) as the player and your VCR as the recorder. In this case, the VCR's REMOTE PAUSE terminal can be used to accept Master Edit Control commands from the camcorder.

PREPARATION

1 Connect the camcorder's AV OUT connector to the VCR's front panel VIDEO IN and AUDIO IN connectors.
  - With a Super VHS camcorder, connect its S-OUT connector to the VCR's S-VHS connector.
  - If connections are made to both the VIDEO and S-VHS connectors, the S-VHS connection has priority.
  - With monaural camcorders, use your VCR's AUDIO L (MONO) connector.

2 Connect the AV output cable's mini-plug to the REMOTE PAUSE terminal of the VCR.

- If the camcorder is equipped with the Master Edit Control system, you can control the VCR using the camcorder's controls. See camcorder's instruction manual for operating procedures.
- With this connection, you can also use the camcorder as a video camera for direct recording onto the VCR's tape. Put the VCR in Record-Pause and use the camcorder's start/stop trigger to start and pause recording. (For direct recording with a separate video camera, a camera adapter is necessary.)

OPERATION

3 Set the VCR's input mode to AUX by pressing digit key "0". "AU" will appear instead of a channel number.

4 Put the camcorder in the Play mode.

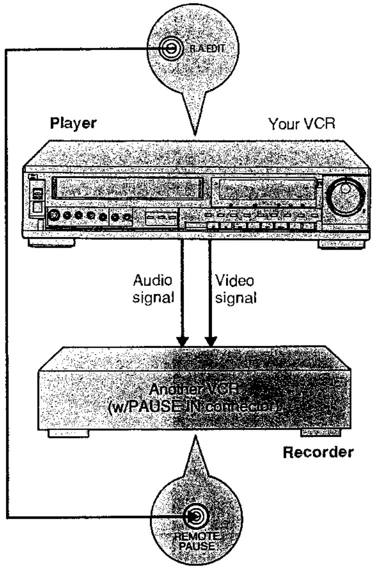
5 Put the VCR in the Record mode.

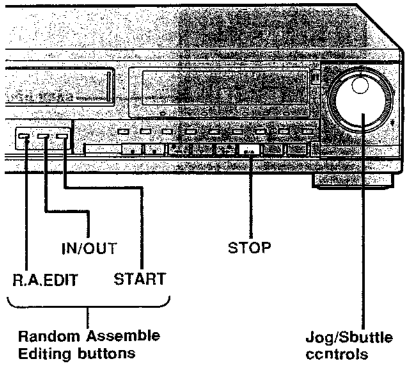
Advantages Of S-VHS VCRs

You can edit from VHS to S-VHS, S-VHS to VHS, or, needless to say, from S-VHS to S-VHS.

- From VHS to S-VHS (VIDEO-VIDEO connection): Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS (VIDEO-VIDEO connection): Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS (S-VIDEO connection): All signals will be transferred without degradation.

For Editing (cont'd)





Random Assemble Editing

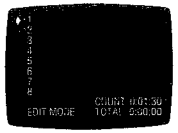
This function makes it easier to create edited videos when your VCR is used as the source player in combination with another video deck which is equipped with a PAUSE (i.e. remote PAUSE IN) terminal. You can pre-program up to 8 scenes or "cuts" for automatic editing in the sequence you have specified. (☞p.29 "memory capacity".)

PREPARATION

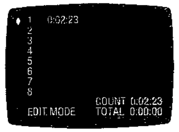
1. Connect your VCR's VIDEO OUT and AUDIO OUT connectors to the recording deck's VIDEO IN and AUDIO IN connectors.
2. Connect your VCR's R.A.EDIT connector to the recording deck's PAUSE connector.
3. Turn both units on.

OPERATION

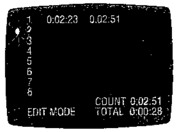
4. Insert a recorded cassette into your VCR, and insert a cassette (with safety tab intact) into the recording deck.
5. Play back the tape in your VCR.
6. Press the R.A.EDIT button.
   - On-screen display is superimposed on the video playback.
7. Use the Jog/Shuttle to search for the point where you want an edited scene to start, and press IN/OUT.
   - The cut-in point is registered in memory.
8. Use the Jog/Shuttle to search for the point where you want the scene to end, and press IN/OUT.
   - The cut-out point is registered in memory.
   - The "TOTAL" reading displays the total running time of the edited scenes.
9. Specify additional scenes by repeating steps 7 – 8.
10. Put the recording deck in the Record-Pause mode.
11. Press START.
    - The function begins automatic editing; all the specified scenes are copied to the recording deck in sequential order.
    - The on-screen display remains superimposed while your VCR searches for each scene (the blinking cursor points to the scene number presently being searched), and is not displayed while the scenes are being edited.
    - While a scene is being searched, the recording deck automatically enters the Record-Pause mode.
    - When Random Assemble Editing is finished, your VCR enters the Still mode, the recording deck enters the Record-Pause mode, and the cursor blinks at the next available scene number.
12. Press R.A.EDIT again.
    - The on-screen display disappears.
13. Press STOP on both decks to end Random Assemble Editing.



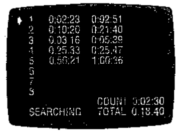
```
1
2
3
4
5
6
7
8
                COUNT 0:01:30
EDIT MODE       TOTAL 0:00:00
```



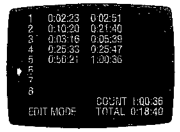
```
1   0:02:23
2
3
4
5
6
7
8
                COUNT 0:02:23
EDIT MODE       TOTAL 0:00:00
```



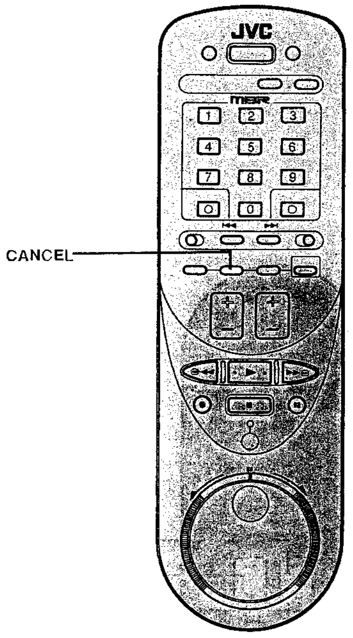
```
1   0:02:23   0:02:51
2
3
4
5
6
7
8
                COUNT 0:02:51
EDIT MODE       TOTAL 0:00:28
```



```
1   0:02:23   0:02:51
2   0:10:20   0:21:40
3   0:03 16   0:05:39
4   0.25.33   0:25.47
5   0.50.21   1:00:36
6
7
8
                COUNT 0:02:30
SEARCHING       TOTAL 0.18.40
```



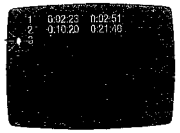
```
1   0:02:23   0:02:51
2   0:10:20   0:21:40
3   0:03:16   0:05:39
4   0:25:33   0:25:47
5   0:50:21   1:00:36
6
7
8
                COUNT 1:00:36
EDIT MODE       TOTAL 0:18:40
```



TO MAKE CORRECTIONS

During step 7 or 8, you can correct a cut-in or cut-out point using the remote control. Each time the CANCEL button is pressed, the immediately preceding point is cleared and can be re-set.

- Example: Here, the cut-out point for "2" can be changed by pressing CANCEL once (to clear it) and re-setting it.By pressing CANCEL more times, you can back up to previous points for re-setting, but all points in between will be cleared in the process. (e.g. To reatch the out-out point for "1", the cut-in and -out points for "2" will be cleared.)

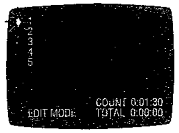


```
1   0:02:23   0:02:51
2   0:10:20   0:21:40
3
```

MEMORY CAPACITY

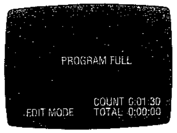
Random Assemble Editing utilizes the same memory space as the VCR's timer; so the number of sequences available to this function may not be 8, depending on how many programs are already stored in memory.

- Example: Only sequences 1 - 5 are available because three programs are stored in the timer memory.



```
1
2
3
4
5
                COUNT 0:01:30
EDIT MODE       TOTAL 0:00:00
```

- Example: The "PROGRAM FULL" screen appears when the timer memory is full (all 8 programs are used). To cancel a program, ☞p.24.

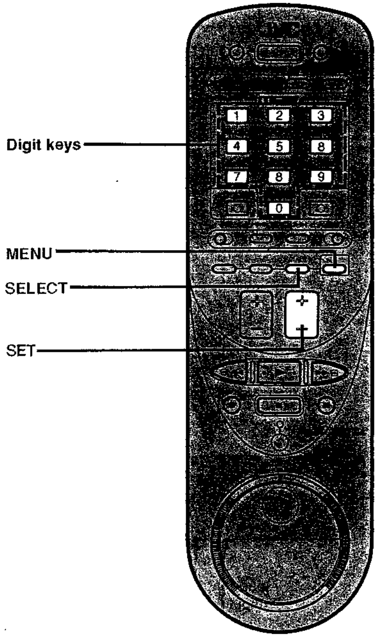


```
        PROGRAM FULL

                COUNT 0:01:30
EDIT MODE       TOTAL 0:00:00
```

NOTES:

- When editing, there may be a discrepancy of about 2 seconds on the playback tape between the locations you chose as cut-in/out points and the locations the VCR recognizes as those points.
- For any scene, the cut-out point must have a counter reading that is at least 1 second after the cut-in point. A out-out point with a counter reading less than or the same as the cut-in point will not be registered.
- Since the playback deck prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any cut-in point on the playback tape.
- If the search time for a cut-in point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.

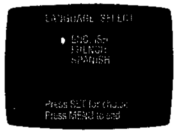
For Coovooiooco


Digit keys
MENU
SELECT
SET
1
2
3
4
5
6
7
8
9
0

Language Select

Although the pre-set on-screen language is English, you can set the VCR to display on-screen menus and messages in French or Spanish.

1. Press MENU.
2. Press the 3 key. (VCR Set Up)
3. Press the 1 key. (Language Select)
4. Press SET to choose the language you want.
5. Press MENU to end.


LANGUAGE SELECT
ENGLISH
FRENCH
SPANISH
Press SET for choice
Press MENU to end

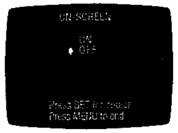
Clock Set

Always re-set the clock after a power outage, or whenever your time zone changes to or from Daylight Saving Time.
For instructions ☞ p.11.

On-Screen (On/Off)

You can choose whether or not to display VCR mode indications on the TV screen. Pre-set to "ON", on-screen messages can be turned "OFF". A convenient function when dubbing to another recorder.

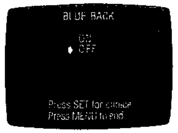
1. Press MENU.
2. Press the 3 key. (VCR Set Up)
3. Press the 3 key. (On-Screen)
4. Press SET to choose OFF.
5. Press MENU to end.
   - Reset On-Screen to ON when you want to restore on-screen indications.


ON-SCREEN
ON
OFF
Press SET for choice
Press MENU to end

Blue Back (On/Off)

Your VCR is set to display a blue background on your TV screen whenever a broadcast signal is not received or is very weak. You can cancel this function if you wish to receive extremely weak signals.

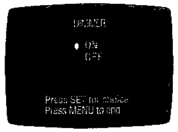
1. Press MENU.
2. Press the 3 key. (VCR Set Up)
3. Press the 4 key. (Blue Back)
4. Press SET to choose OFF.
5. Press MENU to end.
   - Reset Blue Back to ON when you want to restore the blue background.

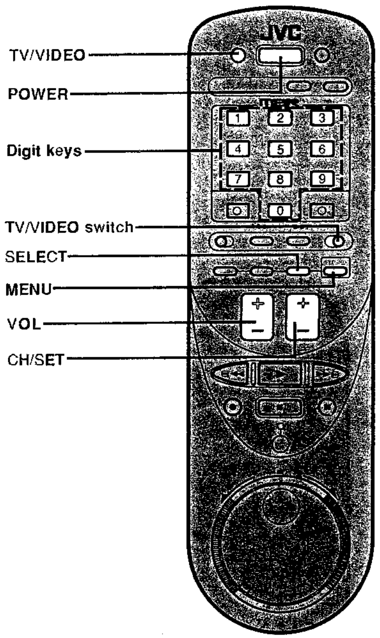

BLUE BACK
ON
OFF
Press SET for choice
Press MENU to end

Dimmer (On/Off)

This function lets you make the VCR's display panel less bright.

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 3 key. (Dimmer)
4. Press SET to choose ON.
5. Press MENU to end.
   - Reset Dimmer to OFF when you wish to release the dimmer function.


DIMMER
ON
OFF
Press SET for choice
Press MENU to end

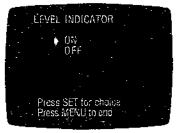

TV/VIDEO
POWER
Digit keys
TV/VIDEO switch
SELECT
MENU
VOL
CH/SET
JVC
1
2
3
4
5
6
7
8
9
0

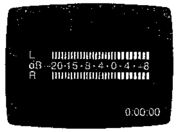
Audio Level Indicator (On/Off)

When set to "ON", this function lets you check the audio level by displaying it on the TV screen.

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 6 key. (Level Indicator)
4. Press SET to choose ON.
5. Press MENU to end.

   Now, simply press ENTER at any time to display the audio level indicator on the TV screen.
   - Press ENTER again to clear it from the screen.
   - Reset Level Indicator to "OFF" when the audio level indication is no longer needed.

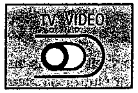

LEVEL INDICATOR
ON
OFF
Press SET for choice
Press MENU to end


L
dB -20·15·8·4·0·4·8
R
0:00:00

TV Code Setting

Your remote control can operate the basic functions of your TV set. In addition to JVC televisions, other manufacturers' televisions listed below can also be controlled by setting the remote control to "TV". If your television is a JVC (Code 1), you don't have to set the TV code in step 2.

1. Set the TV/VIDEO switch to "TV".
2. While holding down the POWER button, press the digit keys corresponding to the code number for your TV's brand.
   - Now the following buttons on your remote control can be used to operate your TV set: POWER, VOL(VOLUME), CH(CHANNEL), TV/VIDEO, and the Digit keys.
3. To operate your VCR, set the TV/VIDEO switch back to "VIDEO".

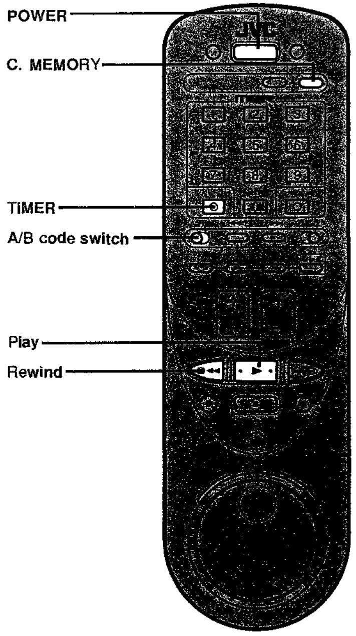


TV BRAND NAME	CODE
JVC	1
MAGNAVOX	2
MITSUBISHI	3
PANASONIC	4
RCA	5
SHARP	6
SONY	7
TOSHIBA	3
ZENITH	9
HITACHI	0

NOTES:

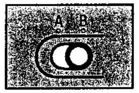
- Whenever you replace batteries in the remote control, it is necessary to re-set the TV code if your television is not a JVC TV.
- With some televisions, the TV/VIDEO button functions only to switch the TV to the VIDEO(AV) mode.

For Convenience (cont'd)


POWER
C. MEMORY
TIMER
A/B code switch
Play
Rewind

A/B Code Switching

The A/B CODE switch is preset to the "A" position because your VCR is initially set to respond to A code signals. You can easily modify your VCR to respond to B code signals.



1. Unplug the VCR's power cord from the AC outlet.
2. Set the A/B CODE switch to "B".
3. Plug the VCR's power cord back into the AC outlet. Do not use other remote controls at this stage.
4. Turn the VCR power on using the remote control's POWER button. The VCR will now respond only to B code signals.

NOTE:

Some TV sets may malfunction in response to B code signals. If this happens, switch back to the A mode.

Next Function Memory

For automatic start of playback after the tape is rewound:

1. Press ◄◄.
2. Press ► within 2 seconds.

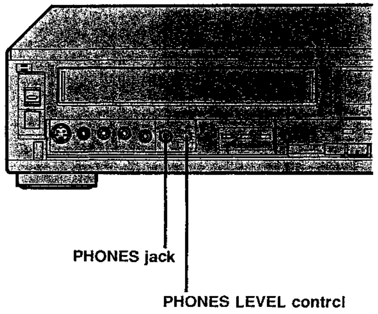
For automatic power off after the tape is rewound:

1. Press ◄◄.
2. Press POWER within 2 seconds.

For automatic timer standby after the tape is rewound:

1. Press ◄◄.
2. Press TIMER within 2 seconds.

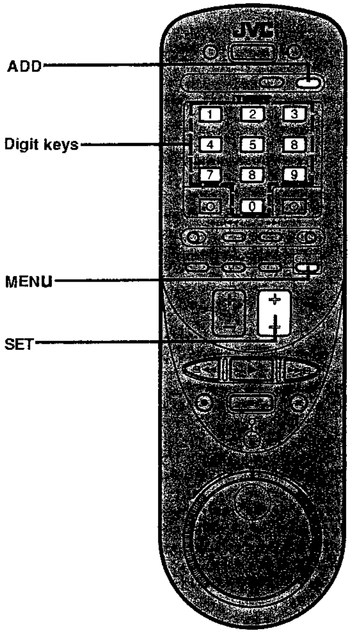
- If you want the "next function" to automatically start when the counter reads "0H 00M 00S" (instead of at the beginning of the tape), press C. MEMORY so that the counter memory "M" mark appears before pressing ◄◄.


PHONES jack
PHONES LEVEL control

Headphone Jack With Volume Control

Your VCR has a headphone jack on the front panel so you can easily plug in headphones for monitoring or private listening. Turn the PHONES LEVEL control clockwise to increase the volume; counterclockwise to decrease the volume.

For Roception


ADD
Digit keys
MENU
SET

Auto Channel Set

Since receivable channels differ by locale, it will be necessary to re-set your VCR's channels when you move to another location. Auto Channel Set is the easiest way to do this. For instructions ☞ p.12.

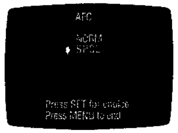
Manual Channel Set

After Auto Channel Setting, you way wish to modify your VCR's receivable channels (add channels that were skipped, delete channels you don't want to receive).

TO ADD A "SKIPPED" CHANNEL

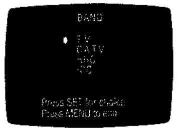
A CHANGE AFC SETTING

9 Press MENU.
9 Press the 4 key. (Tuner Set Up)
9 Press the 4 key. (AFC)
9 Press SET to choose SPCL.
9 Press MENU.


AFC
NORM
SPCL
Press SET for choice
Press MENU to end

B SELECT THE TV BAND

9 Press the 3 key. (Band)
9 Press SET to choose TV.
9 Press MENU.

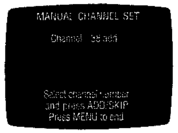

BAND
TV
CATV
Press SET for choice
Press MENU to end

C ADD THE CHANNEL

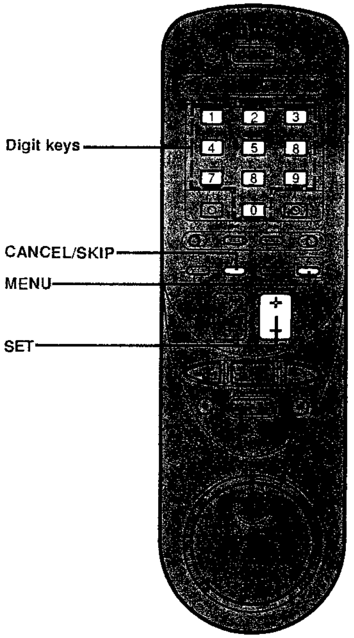
9 Press the 2 key. (Manual Channel Set)
12 Press the appropriate digit keys to input the channel number.
- Example: For channel 38, press 3 8.

12 Press ADD.
- Display should change from "skip" to "add".

12 Press MENU to end.


MANUAL CHANNEL SET
Channel 38 add
Select channel number
and press ADD/SKIP
Press MENU to end

Fer Reception (cnnt'd)



TO DELETE AN UNWANTED CHANNEL

A SELECT THE BAND

- Press MENU.
- Press the 4 key. (Tuner Set Up)
- Press the 3 key. (Band)
- Press SET tc choose the apprcpriale band.
- Press MENU.

BAND
TV
CATV
HRC
ICC
Press SET for choice
Press MENU to end

B SKIP THE CHANNEL

- Press the 2 key. (Manual Channel Set)
- Press the appropriate digit keys to input the channel number.
- Press CANCEL/SKIP.
  - Display should change from "add" to "skip".
- Press MENU to end.

MANUAL CHANNEL SET
and press ADD/SKIP
Press MENU to end

NOTES:

- The BAND select feature has 4 settings (TV, CATV, HRC, and ICC). Set to TV if your antenna provides only UHF and VHF channels. Set to CATV if your antenna system is a cable TV line with or without a cable converter/decoder box. Set to HRC cr ICC if this matches your partioular cable system; check with your cable supplier to determine your type of system.

Helpful Terms And Informatioo

The following glossary is for your convenience in helping you better understand your VCR and its operation.

AFC (Automatic Frequency Control): Internal circuit that automatically maintains tuning.

NORM:
Normally, keep AFC at this setting.

SPCL:
If a station you want was "skipped" or reception is unsatisfactory with NORM, try this setting.

Auto Channel Set: Part of the "TUNER SET UP" function. When used, the VCR runs through (scans) all the channols on the VCR, automatically placing all channels receivable in your area into the VCR's memory.

AV: Short for Audio/Video. Often refers to separate audio (sound) and video (picture) signals which, when combined, make up a program.

AV Connection: Type of VCR-to-TV connection in which the VCR's AUDIO OUT and VIDEO OUT terminals are connected to the TV's AV IN terminals. Audio and video signals are sent separately and directly to the TV without having to modulate them into RF signals.

Sands: Four settings are available on the VCR so you can receive TV programming from just about any broadcaster.

TV:
Use this setting to receive VHF (Very High Frequency) and UHF (Ultra High Frequency) channels only. These are received by the tuner on channels 2 thru 13, and 14 thru 69, respectively.

CATV:
Short for Community Antenna TV, and commonly referred to as simply "Cable TV". Use this setting to receive channels on cable.

HRC:
Use this setting if your particular cable system is HRC (Harmonically Related Carrier).

ICC:
Use this setting if your particular cable system is ICC (Incremental Coherent Carrier).

Cassette Adapter: Provided with most Compact VHS camcorders, and also available optionally, it allows VHS-C cassettes to be played (and recorded) on VHS VCRs just like full-size VHS cassettes.

Editing: Refers to dubbing or tape-to-tape editing (in which the contents of a tape in one video unit are copied to another tape in a second video unit), and to oreative editing (in which video programming is actually modified to create something different from the original).

FDP: Short for Fluorescent Display Panel, which is the type of display panel used on this VCR.

Head: An electronic component which "writes" or "reads" video signals on the tape.

Head Drum: A drum-shaped cylindrical assembly on which the video heads are located. It rotates at high speed, allowing the heads to "write" and "read" diagonal signal tracks on the video tape.

Hi-Fi VHS Stereo Sound: Achieves high-quality sound by using rotary FM-audio heads which scan the tape helically with a high writing speed — just like video heads — in both recording and playback.

HQ (High Quality): An enhancement feature in the VCR circuitry which provides greater picture detail.

Index Code: An electronic oode "written" on the tape's control track when reoording is started. Index codes can be used to facilitate program searoh, and have absolutely no effect on recorded pictures or sound.

Master Edit Control System: A properly-equipped VideoMovie camcorder sends a control signal tc the VCR via the REMOTE PAUSE terminal, "telling" the VCR to release the Pause mode.

Mode: The status of the VCR (the operating feature being used) at any given time. (e.g. The tape is heing rewound = the VCR is in the Rewind mode.)

Noise: Video noise; various types of picture distortion including pulsing, streaking, and "snow". Some types are unavoidable, such as during high-speed search, while others are the result of weak TV signals or clogged video heads.

On-Screen Menu System: VCR funotions are easier to operate beoause they can be chosen, and required data can be input, while viewing special screens displayed on your TV.

Preroll: The VCR backtracks the tape slightly from its original position in Pause or Still so that when Pause/Still is released, the VCR is able to "roll" the tape and get it up to its most stable speed by the time Record or Play is resumed.

Preroll Editing: When two properly-equipped VCRs are used in editing, the recording deck sends a control signal to the playback deok via the REMOTE PAUSE terminal, "telling" it to release the Still mode after the recording deck has completed preroll.

Realtime Counter: The VCR's tape counter shows tape time precisely in hours, minutes and seconds (unlike simple sequential counters). The counter resets automatically when a oassette is inserted.

RF Coaxial Cable: Black insulated round cable used to connect the VCR to the TV.

RF Connection: Type of VCR-to-TV connection in which the VCR's RF (Radio Frequency) OUT terminal is connected to the TV's ANTENNA terminal. The VCR essentially "broadcasts" the program to your TV on channel 3 or 4.

Special Ettects: Playback modes other than normal-speed forward playback; includes still playback (stop motion), slow motion, and high-speed visual search.

Super VHS: A version of the VHS format which was developed to provide pictures with over 400 lines of horizontal resolution. This VCR can handle both standard VHS and Supor VHS (S-VHS) signals.

Tape Speeds: This determines how fast the tape travels during a recording.

SP (Standard Play):
Fast tape speed. Provides recording time of about 2 hrs. per T-120 cassette, and 2 hrs. 40 mins. per T-160 cassette. Most prerecorded VHS software is recorded in SP.

EP (Extended Play):
Slow tape speed. Provides recording time of about 6 hrs. per T-120 cassette, and 8 hrs. per T-160 oassette. Useful for multiple-program recording on a single cassette.
Some manufacturers sell VCRs with an intermediate LP (Long Play) speed, which is not officially recognized as a VHS standard. This JVC VCR can play back LP-recorded tapes, but will not record in that tape speed.

Timer-Reoording: Using the VCR's built-in clock/timer for automatic, unassisted start and stop of recording.

Traoking: The video head's ability to accurately "read" recorded signals (tracks) without deviating. When tracking deviation occurs, it appears on the screen as vertical jitter and grainy streaks. The Digital Tracking function cn this VCR is an extremely accurate automatic tracking system which greatly reduces the possibility of deviations.

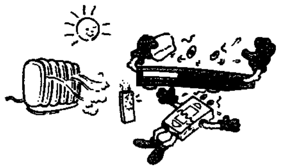
Tuner: The part of the VCR that reoeivẽs TV signals off the air and via oable. The Frequenoy Synthesized Tuner of this VCR is highly accurate, and is capable of receiving up to 181 channels.

VCR: Short for Video Cassette Recorder.

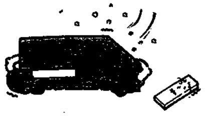
VHS: The video format of this VCR, and the video format most widely used throughout the world.

Precautieus

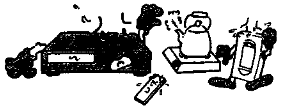
Please follow these safety precautions. Not doing so may result in damage to the VCR, remote control, or video cassette.



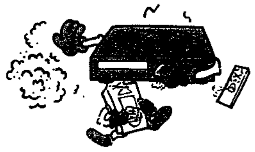
Avoid extreme heat and direct sunlight



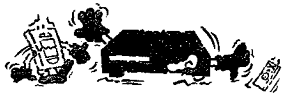
Avoid extreme cold



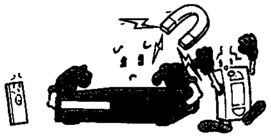
Avoid extreme humidity



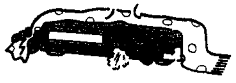
Avoid dust



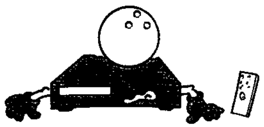
Avoid places subject to vibrations



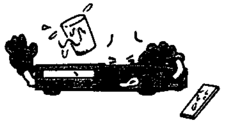
Avoid strong magnetic fields



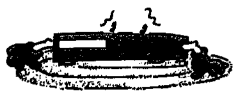
Do not block the VCR's ventilation openings



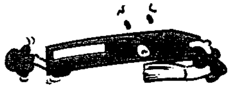
Do not place anything heavy on the VCR or remote control



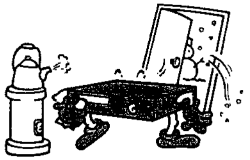
Do not place anything which might spill on top of the VCR or remote control



Do not place the VCR on cushions, pillows, or thick carpeting

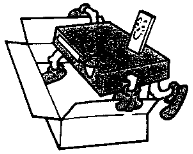


Dse the VCR in a stable, horizontal position only



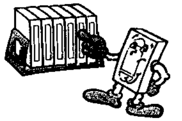
Deware of moisture condensation

Moisture in the air will condense on the VCR when you move it from a cold place' to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the VCR's power turned on for a few hours to let the moisture dry.



When transporting

- Be sure to remove cassette from VCR before packing
- Avoid violent shocks to the VCR during packing and transport



Place cassettes in cassette cases and store verticslly

In Case Of Difficulties

POWER AND TAPE TRANSPORT PROBLEMS

Symptoms	Check points
No power is applied to the VCR.	● Is the power cord disconnected? — Connect it.
Remote control does not operate the VCR.	● Did you load batteries? — Make sure they're loaded in the correct directions. ● Are the batteries discharged? — Replace with fresh batteries. ● Is the TV/VIDEO switch set to "TV"? — Set it to "VIDEO". ● Is the A/B Code switch set correctly? — Set it to the correct position.
Clock is functioning properly, but the VCR cannot be powered.	● Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Tape stops during rewind or fast-forward.	● Is the C. MEMORY button pressed? — Press again to make "M" disappear from the counter display.
Tape will not rewind or fast-forward.	● Is the tape already fully rewound or fast-forwarded? — Check the cassette.

RECORDING PROBLEMS

Symptoms	Check points
Recording cannot be started.	● Is a cassette loaded? ● Is the safety tab on the cassette removed? — Reseal the slot with adhesive tape (☞ p. 10)
TV broadcasts cannot be recorded.	● Has "AUX" been selected by mistake? — Set to the desired channel.
Tape-to-tape editing is not possible.	● Is the camcorder or VCR correctly connected? ● Are all necessary power switches turned ON? ● Has "AUX" been selected? — Set to "AUX". — If using a rear panel input connection, make sure nothing is connected to the front panel connectors. (☞ p. 26)
Camera recording is not possible.	● Is the camcorder correctly connected? ● Has "AUX" been selected? — Set to "AUX".
Timer recording is not possible.	● Have you set the clock correctly and programmed the timer correctly? — Check once again. ● Is the TIMER indicator displayed on the display panel? — If not, press the TIMER button to display the TIMER indicator.

PLAYBACK PROBLEMS

Symptoms	Check points
Playback picture does not appear while the tape is running.	● If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel? — Set it to the RF converter channel (3 or 4). (☞p.9) ● If you are using AV connection, is the TV receiver set to the AV mode? — Set it to the AV mode.
Noise appears during visual search.	● This is normal.
Noise appears during normal playback.	● Is the automatic tracking mode engaged? — Try manual tracking. (☞p.19)
Noise appears during slow playback.	— Try manual tracking. (☞ p.19)
Playback picture is blurred or interrupted while TV broadcasts are clear.	● Video heads may be dirty. — Head cleaning is necessary. Consult your JVC dealer (☞ p.39).
Playback is repeated.	● Is "REPEAT" on the VCR SET UP menu set to either "FULL" or "SEGMENT"? — Set it to "NO".

Hi-Fi AUDIO PROBLEMS

Symptoms	Check points
Breaks are noticeable in Hi-Fi audio reproduction.	● Is the automatic tracking mode engaged? — Try manual tracking. (☞p.19)
Hi-Fi soundtrack cannot be reproduced.	● Is "AUDIO MONITOR" on the FUNCTION menu set to "NORM"? — Set it to "HI-FI".

OTHERS

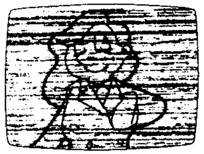
Symptoms	Check points
Clock setting is not possible.	● Is the TIMER indicator displayed on the display panel? — Press the TIMER button to turn the indicator off.
Some channels are skipped over when scanning channels.	● Those channels are preset to be skipped over. If you need them, restore them. (☞p.33)
During Auto Channel Set, the sound of the channel being scanned can be heard momentarily.	● This is normal.
Channel cannot be switched.	● Is recording in progress? — Press the PAUSE button, change the channel, and press the PLAY button.
Snowy picture on screen when viewing TV programs while recording another program.	● Is the VIDEO indicator lit? — Press the TV/VIDEO button so that the indicator extinguishes.
Index Search does not function properly.	● Adjacent index codes may be too close to each other.

ATTENTION:

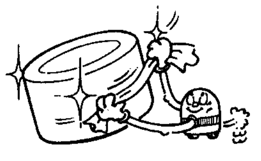
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch on. Take out the cassette. After checking the cassette, operate the unit as usual.

Special Note On Head Cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this model is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered please consult the nearest JVC dealer.



Auto Head Cleaner



A built-in head cleaner automatically cleans the video heads and head drum whenever a tape is loaded or unloaded to reduce head clogging.

SECTION 1
DISASSEMBLY AND MECHANISM ADJUSTMENT

1.1 DISASBEMBLY

1.1.1 Top cover

1. Take out 4 screws Ⓐ.
2. To remove the top cover, slide in direction of arrow and lift away.

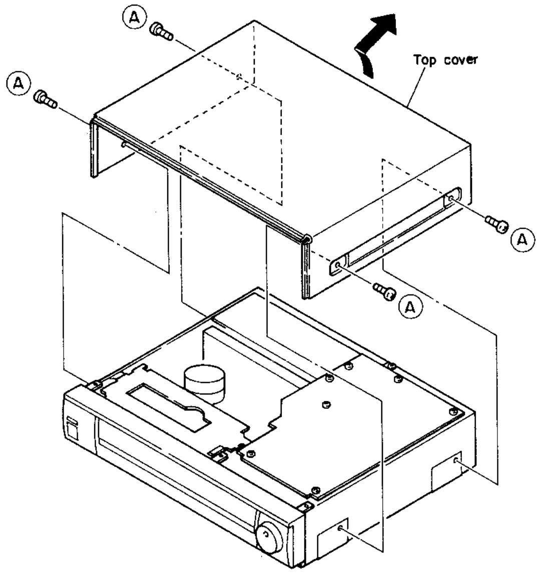
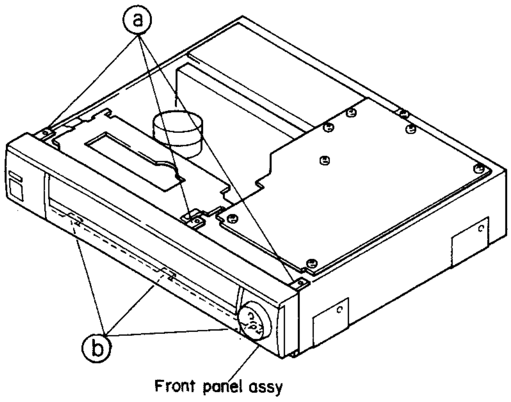


Fig. 1-1-1 Top cover

1.1.2 Front panel assembly

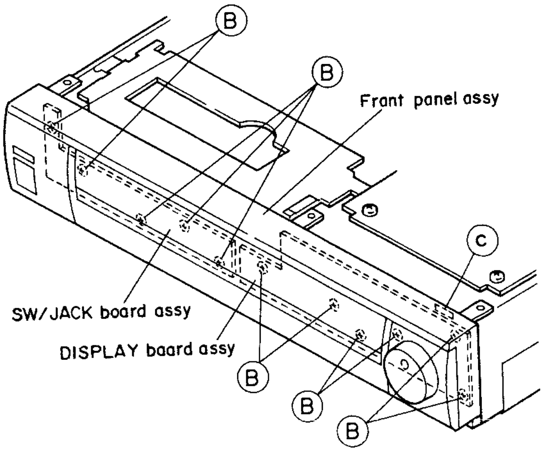
1. Remove the top cover.
2. Carefully disengage 3 tabs ⓐ of the front panel assembly from the upper side of chassis.
3. Pull the front panel assembly forward you to disengage 3 tabs ⓑ of the front panel assembly from the bottom of the chassis.



ⓐ
ⓑ
Front panel assy

Fig. 1-1-2 Front panel assembly -1

4. Take out 11 screws Ⓑ, and disconnect connector Ⓒ from the Display board assembly.

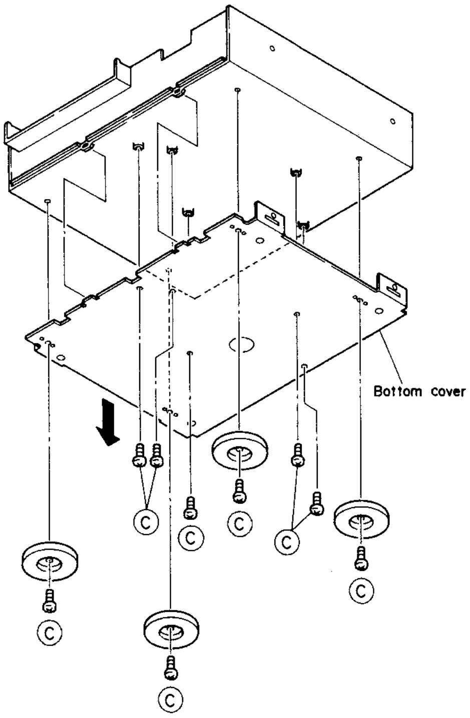


Ⓑ
Ⓑ
Front panel assy
Ⓒ
SW/JACK board assy
DISPLAY board assy
Ⓑ
Ⓑ
Ⓑ

Fig. 1-1-3 Front panel assembly -2

1.1.3 Bottom cever

1. Take out 9 screws Ⓒ.



Bottom cover
Ⓒ
Ⓒ
Ⓒ
Ⓒ
Ⓒ
Ⓒ
Ⓒ

Fig. 1-1-4 Bottom cover

1.1.4 Main board assembly

1. Remove the top cover.
2. Take out 7 screws Ⓓ and 3 screws Ⓔ.
3. Remove the main board assembly in the direction of arrow.

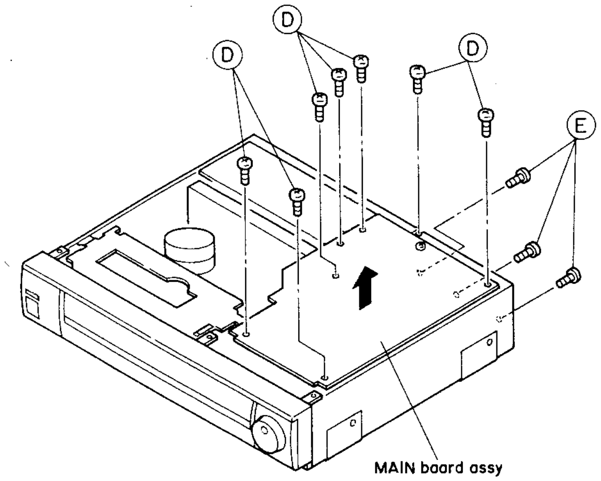

Ⓓ
Ⓓ
Ⓓ
Ⓔ
MAIN board assy

Fig. 1-1-5 Main board assembly

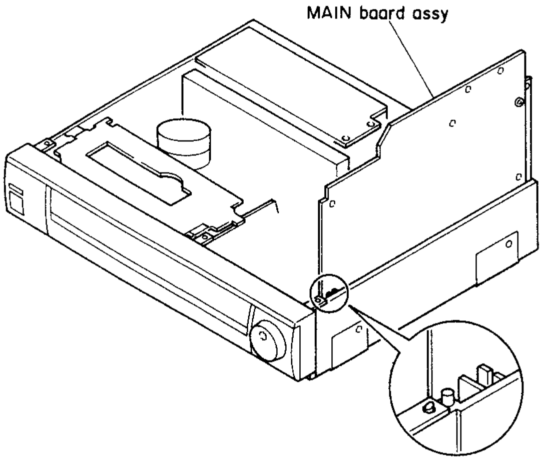

MAIN board assy

Fig. 1-1-6 Service portion

1.1.5 Cassette housing assembly

1. Remove the top cover and main board assembly.
2. Carefully disengage 3 tabs ⓐ of the front panel assembly from the upper side of the chassis.
3. Pull the front panel assembly forward you to disengage 3 tabs ⓑ of the front panel assembly from the bottom of the chassis.
4. Take out 4 screws Ⓕ.
5. Remove the cassette housing assembly in direotion of arrow.

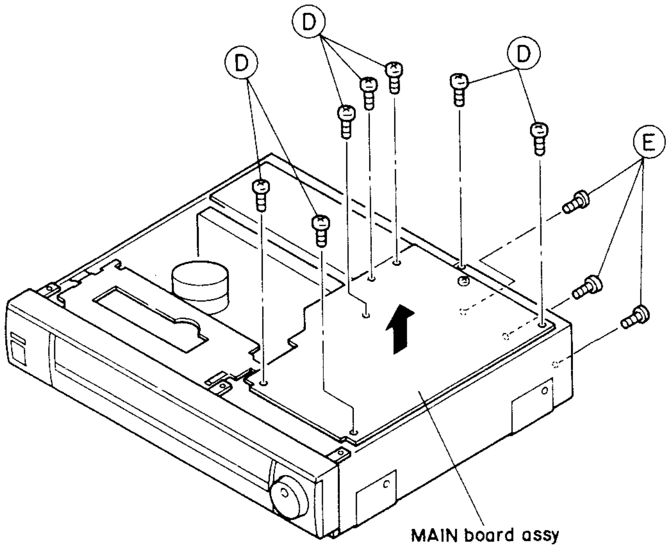

Ⓓ
Ⓓ
Ⓓ
Ⓔ
MAIN board assy

Fig. 1-1-7 Cassette housing assembly

1.1.8 Cassette housing installation

Note: ***Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.***

1. Check that the marks of the control cam and pinch roller cam are aligned. If necessary, turn the worm clutch by hand to adjust the position.

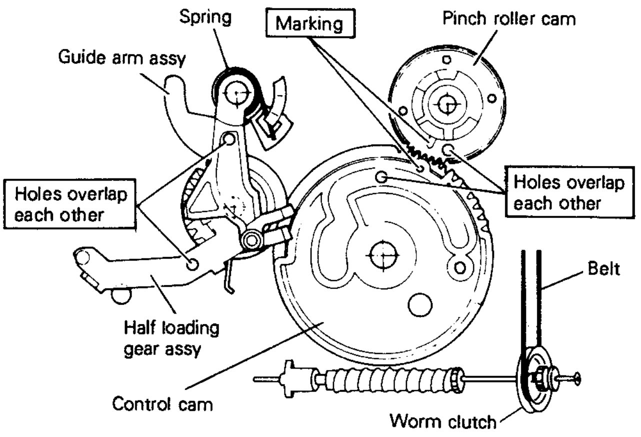

Spring
Marking
Pinch roller cam
Guide arm assy
Holes overlap each other
Holes overlap each other
Belt
Half loading gear assy
Control cam
Worm clutch

Fig. 1-1-8 Control cam and pinch roller cam position

2. Confirm that the clutch of the worm clutch assembly is locked. If necessary, engage the locked.

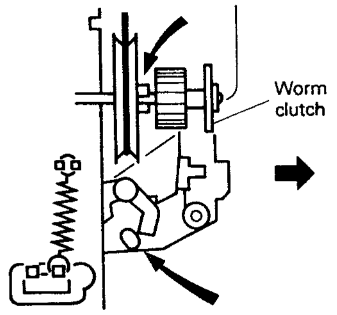

Worm
clutch

Fig. 1-1-9(a) Not locked

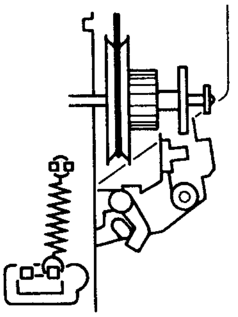


Fig. 1-1-9(b) Lock engaged

3. Install the front panel as shown in Fig. 1-1-10 and reengage the tabs. Supply power and use a spare cassette to check for normal loading and eject operations

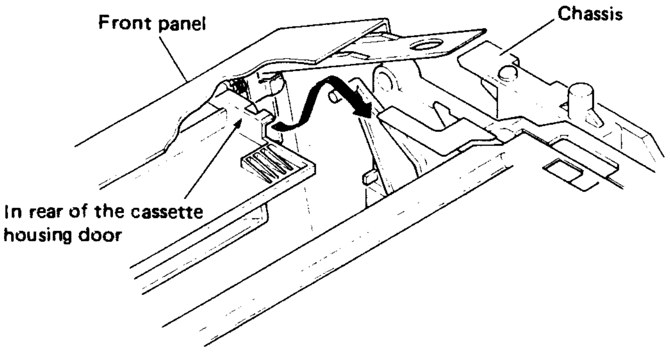

Front panel
Chassis
In rear of the cassette
housing door

Fig. 1-1-10 Cassette housing door

1.1.7 Switching regulater assembly

1. Remove the top cover and main board assembly.
2. Take out 2 screws Ⓓ .
3. Disconnect 5 connectors ⓓ from the switching regulator board assembly.
4. Remove the switching regulator board assembly in direction of arrow.

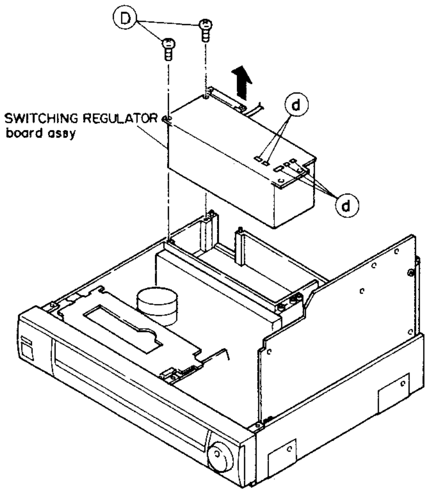

D
SWITCHING REGULATOR
board assy
d
d

Fig. 1-1-11 Switching regulator assembly

1.1.8 Pre amp beard assembly

1. Remove the top cover and main board assembly.
2. Disconnect 9 connectors ⓔ from the pre amp board assembly and remove the shield cover in direction of arrow.
3. Take out 2 screws Ⓖ and remove the pre amp board assembly in direction of arrow.

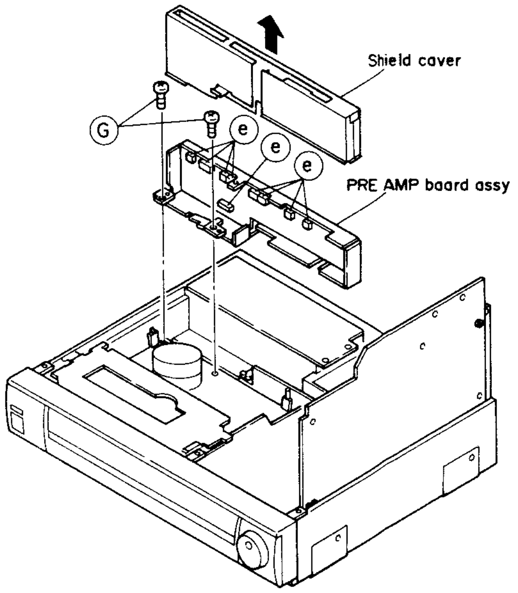

Shield cover
G
e
e
e
PRE AMP board assy

Fig. 1-1-12 Pre amp board assembly

1.1.9 Main deck assembly

1. Remove the top cover, front panel, main board assembly and cassette housing assembly.
2. Take out 3 screw Ⓗ and disengage 2 claws ⓕ from the chassis.
3. Remove the main deck assembly in direction of arrow.

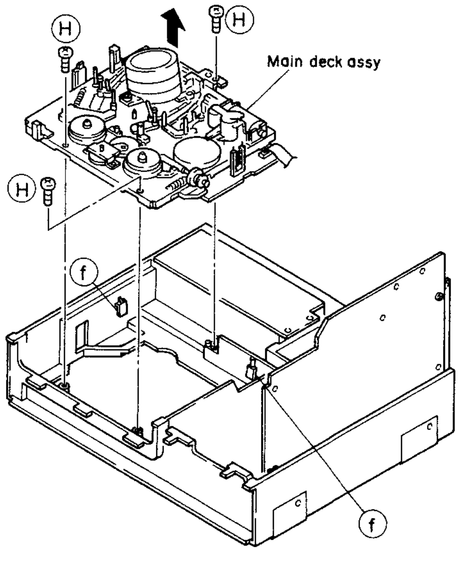

H
H
Main deck assy
H
f
f

Fig. 1-1-13 Main deck assembly

1.2 MECHANISM ADJUSTMENTS

1.2.1 Precautions

1. Disconnect VCR from AC power before soldering.
2. Avoid imparting stress to wires when disengeging connectors.
3. Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
4. Use care not to damage tabs, claws, etc. during repairs.
5. Install the cassette housing assembly only when the mechanism is in the Eject or Stop mode position. In the Eject mode, the internal holder of the housing is fully raised. This is fully lowered in the Stop mode.
6. When installing the front panel assembly, be sure to engage the housing door with the door lever of the cassette housing assembly. If this is omitted, the door will not open at Eject and the cassette cannot be removed.

1.2.2 Check without cassette housing

Mechanism operations can be observed easily by removing the cassette housing assembly. Note the following.

1. Disable the photo transistor sensor (END SENSOR) on the main-deck by applying an opaque cover.
2. Connect pins 2 and 3 of A/S/M board connector CN001.
3. Select the desired modes with the operation buttons. However, notice that without tape, setting for the reverse direction modes produces the Stop mode after a few seconds due to absence of the reel sensor output.

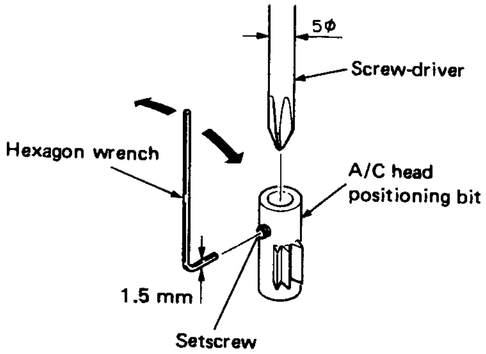


Fig. 1-2-1 A/C head positioning tool

1.2.3 Manually removing cassette tape

In event of electrical system failure that prevents the tape from being unloaded, the tape can be removed manually by the following procedure. Refer to Figs. 1-3-1, 1-3-2 and 1-3-3.

1. Disconnect power cord from AC outlet.
2. Turn the loading motor by hand so that the control cam rotates clockwise. This retracts the pole base assembly to the unloading position.
3. Continue turning to where the guide arm and half loading gear assemblies shift to beneath the cassette.
4. Turn the clutch assembly at the rear of the deck to absorb slack tape within the cassette.
5. Again turn the loading motor in the same direction to raise the cassette and remove it.

1.2.4 Test equipment

The following special tools and fixtures are required for mechanism adjustment.

1. Alignment tapes : MH-1 and MH-1L
   Stairstep signal is employed for interchangeability checks and adjustments.
2. Torque gauge : PUJ48075-2
   Measures tape take-up torque.
3. Back tension cassette gauge : PUJ48076-2
   Measures tape tension at the supply side.
4. A/C head positioning bit : PTU94010
   - Shifts the head base for adjusting the control head position.
   - **The installation of a A/C head positioning bit on the screw-driver.**
     Refer to Fig. 1-2-1. Set screw-driver into the A/C head positioning bit where it does not interfere with adjusting the A/C head adjusting boss (position the screw-driver point 6 ± 2 mm from point of the A/C head positioning bit). Slightly tighten the setscrew by hexagon-wrench (1.5 mm).
5. Roller driver : PTU94002
   Turns the guide roller for adjusting FM linearity.
6. Presetting unit: PTU94008
   Use for EP auto tracking preset adjustment.

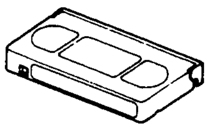
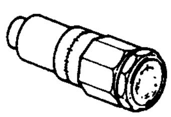
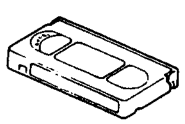
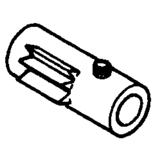
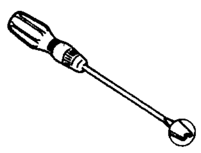
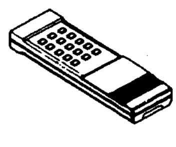
1 Alignment tapes	2 Torque gauge	3 Back tension cassette geuge	4 A/C head positioning bit	5 Roller driver	6 Presetting unit
					

Fig. 1-2-2 Test equipment

1.3 MAIN MECHANISM PARTS

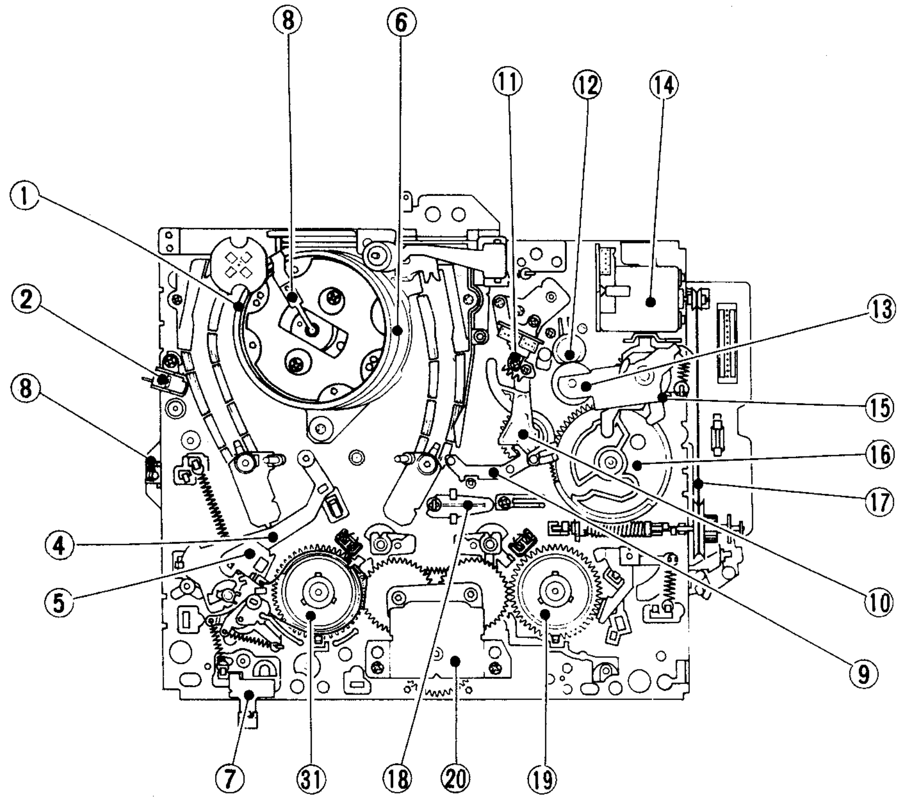

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Fig. 1-3-1 Top view of main-deck

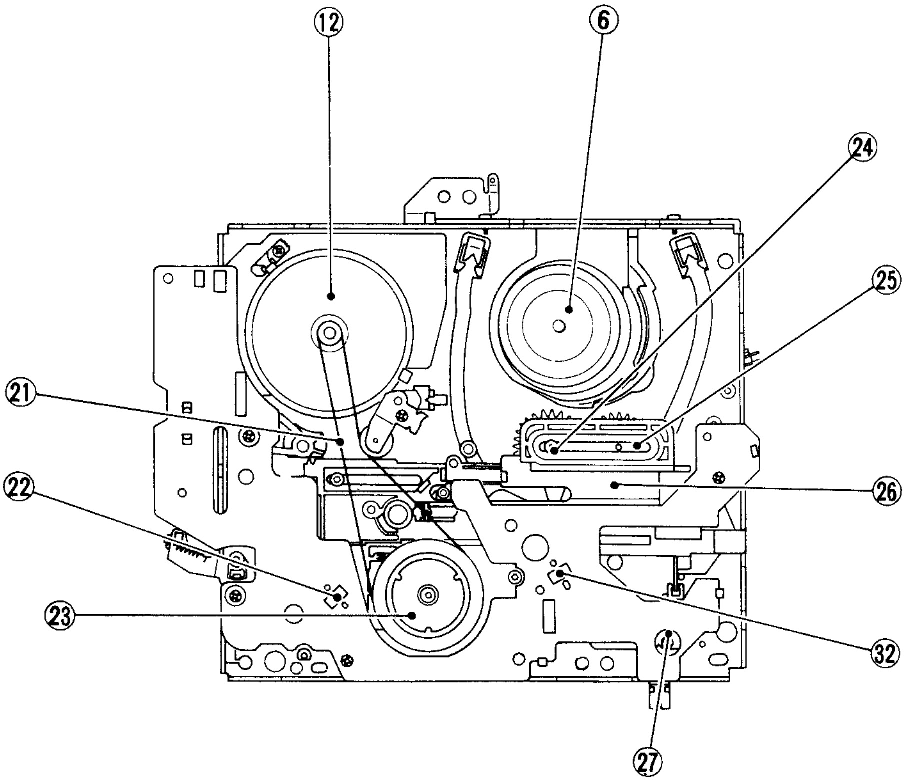
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Fig. 1-3-2 Bottom view of main-deck

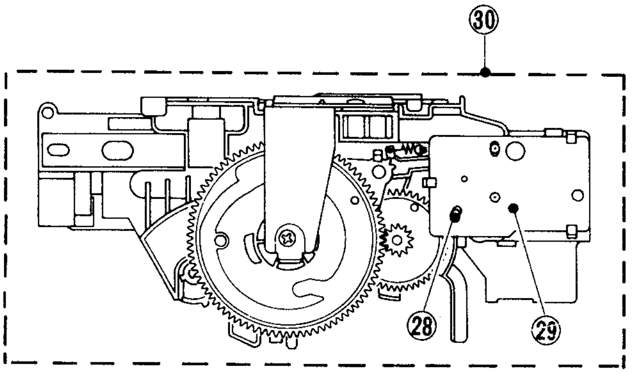


Fig. 1-3-3 Side view of cassette housing

A. Cleaning

Periodic cleaning of the tape transport system is desirable, but ordinarily not feasible in practice. Therefore, perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads, tape guides and brushes can detract from playback picture quality and in extreme cases, even damage the tape. For cleaning, use a fine-mesh cotton cloth (about the texture of a white dress-shirt) moistened in alcohol.

- To clean the video heads, press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke, as this may damage the heads.

B. Lubrication

Oil and grease do not normally require periodic replenshing. Apply only when replacing lubricated parts (also clean and replace lubrication of mating parts if soiled).

For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly.

Before oiling, clean with alcohol.
Apply one or two drops of oil. Avoid excess oil.

1. **Table** 1-3-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents:

Category	Part No.
Oil	COSMO-HV56
Grease	KANTQ-G-31KAV

Table1-3-1

2. Grease is not required for a replacement cassette housing assembly, as this has been applied at the factory.

Note: *Stir grease that has been stored for an extended period.*

C. Main mechanical parts

See Fig.s 1-3-1, 1-3-2 and 1-3-3.

No.	Symbol	Parts Name	See Section
1	M32A	Upper drum assy	1.5.1
2	M44	Full erase head	
3	51Q1	End sensor	
4	M41	Tension arm assy	1.5.4
5	M42	Tension band assy	1.5.4
6	M32C	Lower drum motor assy	1.5.2
7	M461	REC safety switch	
8	M32D	Brush assy	
9	M449	Half loading gear assy	1.5.5
10	M447	Guide arm assy	1.5.5
11	M48	A/C head	1.5.3
12	M422	Capstan motor	
13	M442	Pinch roller arm assy	
14	M434	Loading (Mode) motor assy	
15	M446	Pinch roller cam	1.5.5
16	M439	Control cam	1.5.5
17	M437	Loading belt	
18	M460	LED holder (D1)	
19	M430	Reel disk (take-up)	
20	M424	Idler gear unit	
21	M429	Timing belt	
22	51PS1	Take up reel sensor (PHS1)	
23	M426	Clutch unit	1.5.6
24	M433	Take up loading arm assy	1.5.7
25	M432	Supply loading arm assy	1.5.7
26	M439	Plate assy	1.5.7
27	M462	Slide encoder (S3)	
2S	56PHS3	Cassette sensor (PHS3)	
29	56Q2	Start sensor (Q2)	
30	M36	Cassette housing assy	
31	M470	Reel disk (supply)	

- Symbol interpretation example

M32A
└ Ref. No.
└ Exploded view symbol

56 Q2
└ Ref. No.
└ Boerd No.

1.4 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage. Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced at when required.

1.4.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary.

Also note that rubber parts may deform in time, even if the set is not used.

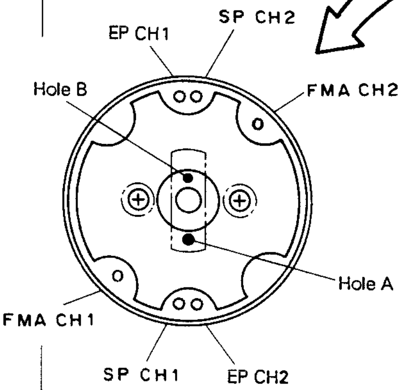
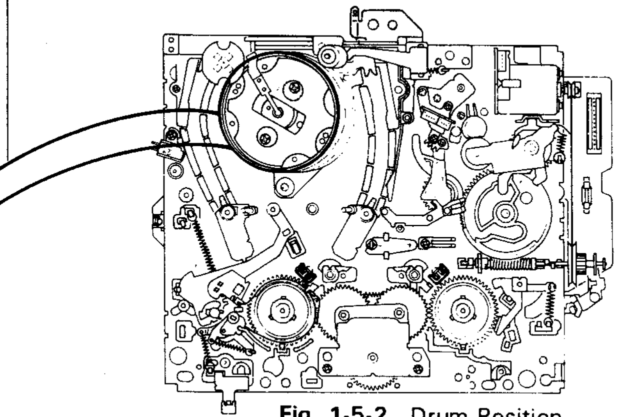
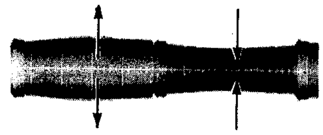
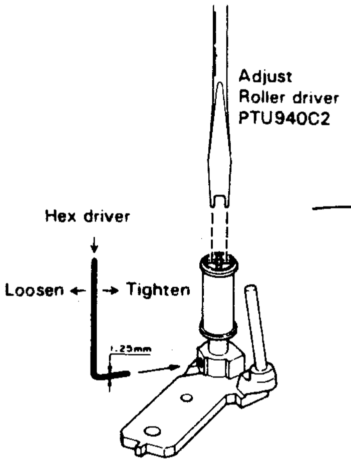
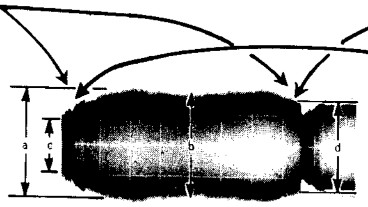
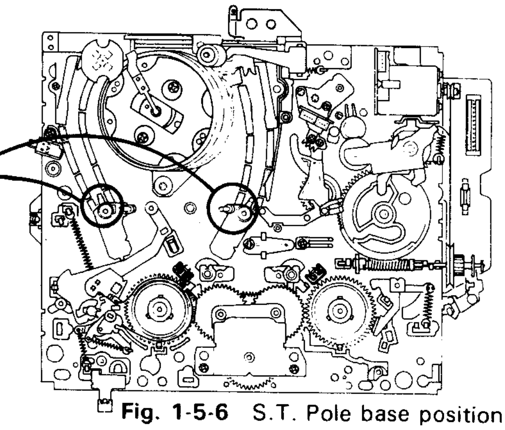
System	No.	Parts Name	Symbol No.	Periodic servicing schedule (operation hours)							
				250	500	750	1000	1250	1500	1750	2000
Tape Transport	1	Upper drum assy	M32A	★	★	☆	○	○	○	○	○
	11	A/C head	M48	★	★	★	○	○	○	○	○
	13	Pinch roller arm assy	M442	★	★	★	○	○	○	○	○
	2	Full erase head	M44	★	★	★	○	○	○	○	○
	4	Tension arm assy	M41								
	6	Lower drum motor assy	M32C				○	○	○	○	○
	12	Capstan motor	M422	★	★	★	★	★	★	★	★
	9	Half loading gear assy	M449								
	10	Guide arm assy	M447								
Drive	12	Capstan motor	M422				○	○	○	○	○
	17	Loading Belt	M437				○	○	○	○	○
	21	Timing Belt	M429				○	○	○	○	○
	19	Take-up reel disk	M439				○	○	○	○	○
	31	Supply reel disk	M470				○	○	○	○	○
	23	Clutch unit assy	M426								○
	14	Loading motor assy	M434				○	○	○	○	○
		Worm clutch assy	M436								△
	26	Plate assy	M439								△
Others	6	Tension band assy	M42				○				○
	S	Brush assy	M32D				○				○

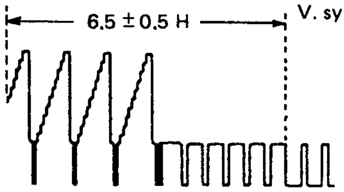
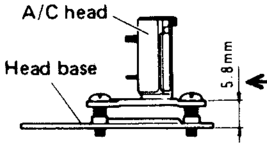
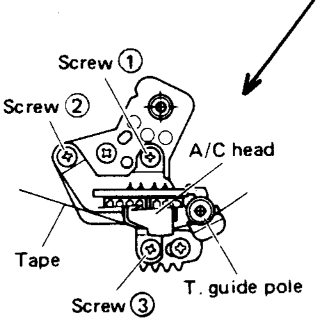
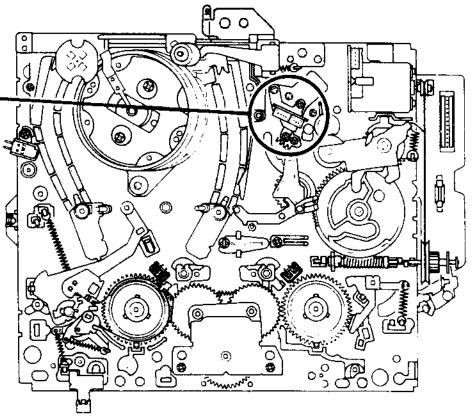
★ : Cleaning
☆ : Cleaning (or Replacement if necessary)
△ : Lubrication
No: Refer to Main mechanical parts

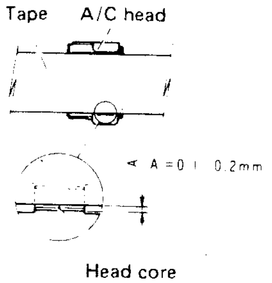
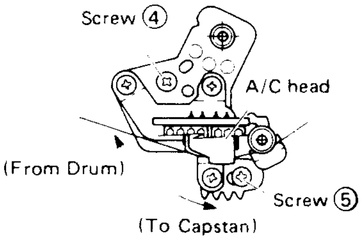
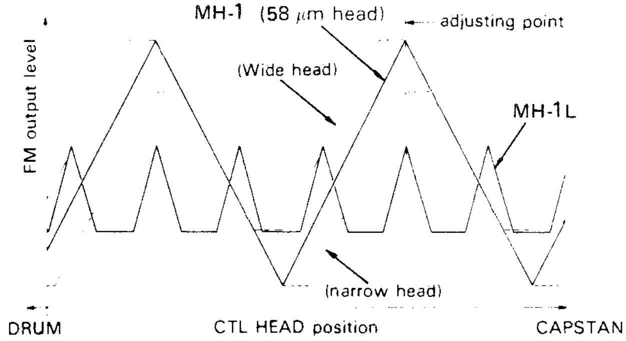
▲ : Lubrication (or Replacement if necessary)
○ : Inspection or Replacement if necessary

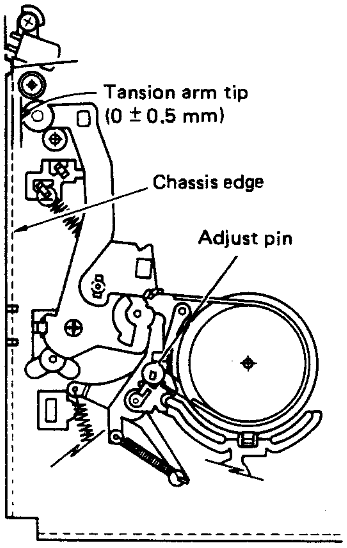
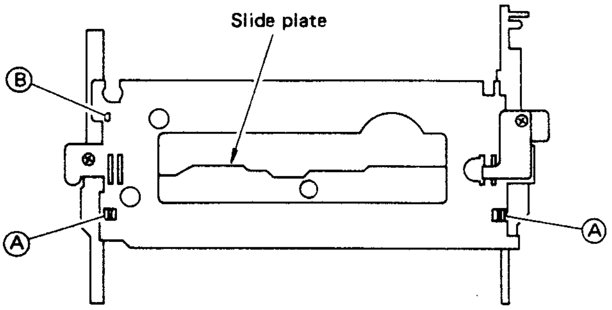
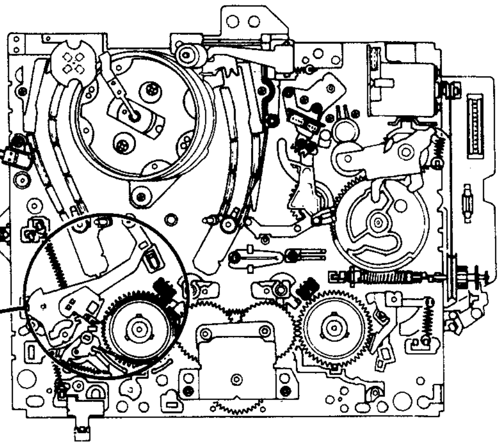
Table 1-4-1 Approximate maintenance schedule

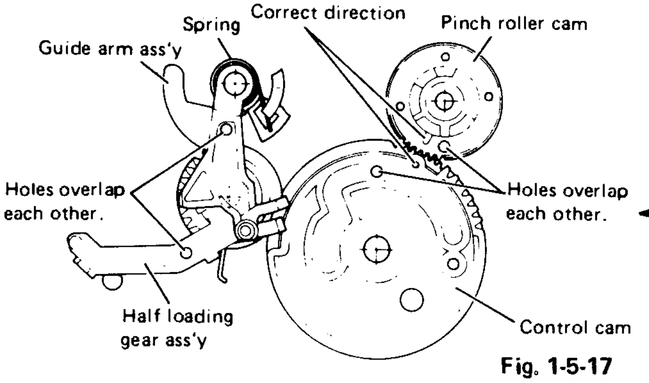
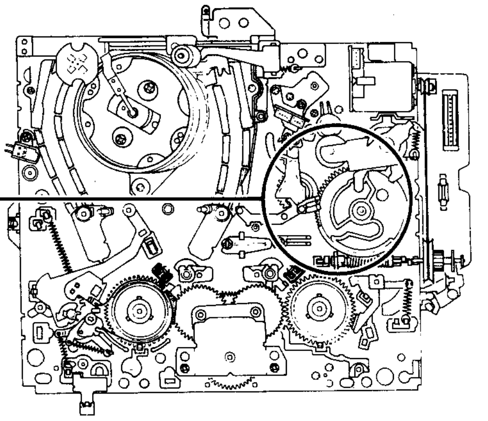
1.5 MAIN PARTS REMOVAL AND REPLACEMENT

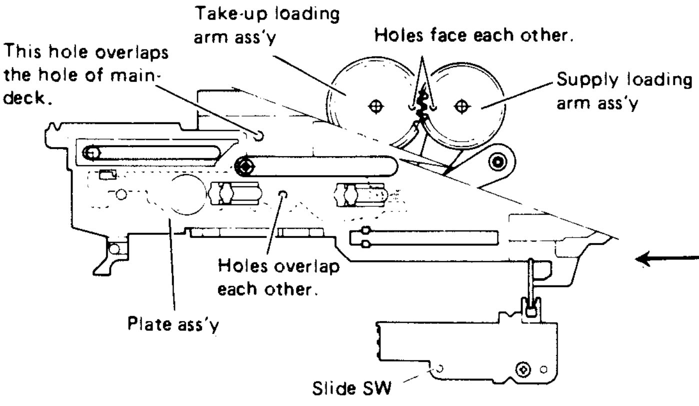
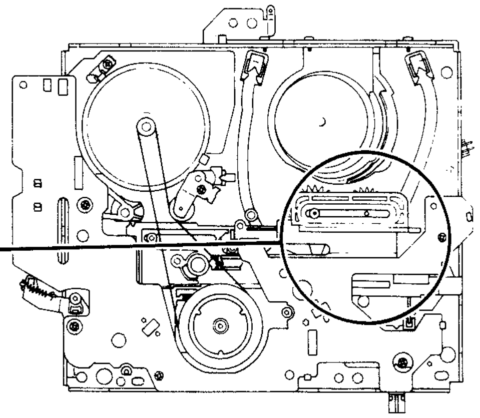
No.	Item	Checkpoints	Adjustment and Checks
1	Upper drum assembly •Symptoms: FM signal absent, intermittent or weak on one channel; large difference in channel output levels •Cause: Worn or damaged video heads, poor response, etc.  EP CH1 SP CH2 Hole B FMA CH2 Hole A FMA CH1 SP CH1 EP CH2 **Fig. 1-5-1** DRUM TOP VIEW	 **Fig. 1-5-2** Drum Position Mounting direction See Fig. 1-5-1. (Symptom: no picture)	After replacing, observe that upper drum hole A is opposite the motor axis from lower drum hole B.
		Axis wobble See Fig. 1-5-2. (Symptom: jitter, poor FM linearity) PB FM: PRE/REC board TP53 FF: A/S/M board TP411	Record and playback in EP mode. Confirm absence of large difference between channels. (Fig. 1-5-3)  **Fig. 1-6-3** Axis wobble
	 Adjust Roller driver PTU940C2 Hex driver Loosen Tighten 1.25mm **Fig. 1-5-4** S.T. Pole base	FM linearity check See Fig. 1-5-5. (Symptom: vertical sync absent, picture noise) PB FM: PRE/REC board TP53 FF: A/S/M board TP411  **Fig. 1-5-5** FM linearity $\frac{b}{a} \geqq 0.7, \frac{c}{a} \geqq 0.65, \frac{d}{a} \geqq 0.65$	 **Fig. 1-5-6** S.T. Pole base position 1) Play stairstep signal of the MH-1 Alignment Tape. Confirm absence of obvious FM waveform loss and that operating the Tracking yields the optimum point. 2) Refer to Fig. 1-5-4, adjust for loss at the left edge (drum entry) of the FM waveform by turning the guide roller of the supply pole base. Similarly, adjust for loss at the right edge (drum exit) by turning the guide roller of the take-up pole base. **Note:** ***If FM loss occurs on both channels and cannot be corrected by adjusting the guide rollers, the lower drum needs replacement.***

No.	Item	Checkpoints	Adjustment and Checks
	PB switching point •Symptom: switching noise at picture bottom.  Fig. 1-5-7 PB Switching Point	VIDEO OUT or TP10 (VIDEO board)	1) Connect VCR to AC. Turn power on. 2) Connect an oscilloscope to VIDEO OUT or TP10. 3) Insert the MH-1 alignment tape to the cassette housing. Play back the stairstep segment of MH-1 alignment tape. 4) Trigger the oscilloscope externally (– slope) with the signal from TP411 (DRUM FF) of the A/S/M board. 5) Adjust R427 to position the trigger point 6.5 H ±0.5 H from V. sync as shown in Fig. 1-5-7.
2	Lower drum assembly •Symptoms: Poor FM linearity, noisy rotation, jitter •Cause: Lead and bearing wear	Check FM linearity and switching point.	See above upper drum assembly items.
		Check control head phase (X value) Symptom: tracking error PB FM: PRE/REC board TP53 FF: VIDEO I board TP411	1) Play stairstep signals of MH-1 and MH-1L Alignment Tapes. Engage the Tracking Preset mode by pressing the + and – buttons simultaneously in the onscreen mode. Confirm that the same maximum FM waveform level is obtained as when the tracking is adjusted manually. 2) Refer to the A/C head adjustments.
3	**A/C head**  Fig. 1-5-8 Temporary height  Screw ① Screw ② A/C head Tape T. guide pole Screw ③ Fig. 1-5-9 Inclination/Azimuth/ Height adj.	Temporarily set height as indicated in Fig. 1-5-8.	 Fig. 1-5-10 A/C HEAD position Set the height as indicated in Fig. 1-5-8 to facilitate tape transport checks and adjustments.
		Tilt (forward inclination) See Fig. 1-5-9. (Symptom: audio level varies greatly.)	1) Run tape, turn screw ① counterclockwise to where slight curling of the tape occurs at the lower flange of the take-up guide roller. 2) Then slowly turn the screw clockwise to where the curling ceases.
		Azimuth See Fig. 1-5-9. (Symptoms: audio low level or noisy) Audio output: AUDIO OUT	1) Set front panel AUDIO MONITOR selector to Normal and play stairstep signal (with audio 7 kHz) of the MH-1 Alignment Tape. Observe audio output signal with oscilloscope. 2) Turn screw ② and adjust for maximum audio output level.

No.	Item	Checkpoints	Adjustment and Checks
		Height See Figs. 1-5-9 and 1-5-11. (Symptom: low audio and control signal levels)	1) Run tape and observe the control head area. 2) Turn screws ①, ② and ③ by small and equal amounts until 0.1 to 0.2 mm of the head core bottom can be seen. **Note:** ***If difficult to observe, play stairstep signal of MH-1Alignment Tape and adjust for maximum audio output and control pulse level.***
	Fig. 1-5-11 Height Adj	FM linearity	Refer to upper drum assembly items. If adjustment is major, again check the azimuth.
	 Screw ④ A/C head (From Drum) Screw ⑤ (To Capstan) **Fig. 1-5-12** CTL head phase  **Fig. 1-5-13** CTL head phase **Note:** ***Trigger the oscilloscope externally signal from TP411 (DRUM FF). Use (+) trigger for MH-1 and MH-1L alignment tape. Narrow head is employed for this model.***	Control head phase See Fig. 1-5-12 PB FM: PRE/REC board TP53 FF: A/S/M TP411	1) Play stairstep signal of MH-1 Alignment Tape and observe the FM waveform. Set for Tracking Preset by pressing the + and − buttons simultaneously in the onscreen mode. 2) Loosen screws ④ and⑤. Set the A/C head positioning tool on screw ④, with the stud inserted into the nearby oblong hole. 3) Turn the tool first to position the A/C head fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig. 1-5-13. 4) Tighten screw ⑤ . Remove the tool and tighten screw ④. 5) Play stairstep signal of MH-1L Alignment Tape and confirm maximum FM waveform output level as shown in Fig. 1-5-13. 6) If not maximum, slightly loosen screws ④ and ⑤. Use the tool and adjust the head position for the nearest maximum point. Then tighten screws ④ and ⑤.
		EP auto tracking adjustment	1) Terminate the video output at 75 ohms with a monitor-TV and connect oscilloscope to PB FM (TP53). 2) Set MH-1L Alignment Tape into the cassette housing and play the stairstep signal. 3) Confirm that the A/V digital tracking LED changes from flashing to lighted. 4) Press button "D" of the preset unit (PTU 94008) to extinguish the A/V digital tracking LED. 5) Again press button "D" to enter the EP interchangeability adjust mode. Confirm that the A/V digital tracking LED changes from flashing to extinguished. Press the stop button. **Note:** ***If the Alignment Tape ejects automatically, repeat the control head phase adjustment.***

No.	Item	Checkpoints	Adjustment and Checks
4	Tension arm assembly Tension band assembly  Tansion arm tip (0 ± 0.5 mm) Chassis edge Adjust pin Fig. 1-5-14 Tension arm assy  Fig. 1-5-16 Cassette housing	Tension pole position See Fig. 1-5-14. (Symptom: poor FM waveform response)	 Fig. 1-5-15 Tension arm position 1) Remove video cassette tape and set for the playback mode as following steps. 2) Disconnect VCR from AC. Slightly rotates the loading motor counterclockwise by hand, then press the lock level portion Ⓐ of the cassette housing by hand as shown in Fig. 1-5-16. 3) Move the raised portion of the cassette housing slide plate to fully forward by hand with loading motor. At this time, again press the lock level portion Ⓑ of the cassette housing slide plate to lower the cassette housing (internal holder of the cassette housing is locked in lowered position). 4) Cover the cassette LED with opaque material (insulated tape with black). 5) Connect VCR to AC. Press the power button on the Front panel and set for the playback mode. 6) Turn the eccentric adjust pin to align the edge of the chassis with the tension arm tip as shown in Fig. 1-5-14.
		Back tension (Symptom: skew)	1) When the tension pole position is correctly adjusted, the back tension will assume the correct value. 2) Use the Back Tension Cassette Gauge and set for the playback mode. Confirm reading of 35 to 48 g·cm. 3) Changing the tension pole position in order to vary the back tension will cause adverse effects elsewhere.

No.	Item	Checkpoints	Adjustment and Checks
5	Pinch roller cam Control cam Half loading gear assembly Guide arm assembly  Spring Correct direction Pinch roller cam Guide arm ass'y Holes overlap each other. Holes overlap each other. Half loading gear ass'y Control cam **Fig. 1-5-17** Control/Pinch roller cam	Important: Do not remove or disturb parts other than those mentioned. See Fig. 1-5-17.	Set mechanism to Eject mode internal holder of the cassette housing is locked in raised) position.  Fig. 1-5-18 Control cam position 1) When installing the pinch roller cam, overlap the largest hole of the gear portion with the hole of the deck. 2) Set the control cam on the deck with the hole of the groove overlapped with the hole of the deck. Observe that the small hole of the control cam and the ridge of the pinch roller cam are aligned. (If the control cam does not fit readily, shift the rear plate assembly within the range of play.) 3) Install the half loading gear assembly with the hole overlapped with the hole of the deck. Secure with E-ring. 4) Install the guide assembly over the spring and with the hole overlapping that of the deck. Engage the spring correctly.
		Cassette housing assembly	Install the cassette housing assembly with the mechanism in the Eject mode. Also observe that the inner holder of the housing is raised and locked.
6	Clutch assembly	Take-up torque (Symptom: inadequate take-up torque)	1) Remove cassette housing and set for playback mode (see Section 1.2). 2) Set torque gauge on the take-up reel disk. Gradually relax your grip on the gauge and read the needle indication at the point the geuga begins to rotate with the disk. Confirm indication of 60 to 100 g·cm.

No.	Item	Checkpoints	Adjustment and Checks
7	Take-up loading arm assembly Supply loading arm assembly Plate assembly		Note: • *Set mechanism to the Eject or Stop mode before removing these parts.* • *The flange of the plastic rivet securing the loading arm assembly and the pole base assembly can be damaged by attempting to remove it directly. Press the loading arm assembly firmly to prevent motion. Then use a narrow-shafted tool to press the rivet from the shaft end to remove it.*
		Mounting position alignment ⊛ Remove the tension arm assembly to facilitate operation. See Fig. 1-5-19.	1) Set the supply and take-up loading arm assemblies so that the holes of the gear portions are aligned, then secure to the pole base assemblies with rivets. 2) Shift the plate assembly and install with the holes of the upper and lower components overlapped.
	 Take-up loading arm ass'y Holes face each other. This hole overlaps the hole of main-deck. Supply loading arm ass'y Holes overlap each other. Plate ass'y Slide SW Fig. 1-5-19	Slide switch See Fig. 1-5-19.	Be sure to engage the slide switch slider with the edge of the plate assembly.  **Fig. 1-5-20** T.S. Loading arm position

1.6 DIGITAL TRACKING OFF/ON SETTING

Set the tracking of the Front panel of the digital tracking off/on position by simultaneously pressing the "+" and "−" channel (tracking) buttons during playback mode.
Observe the display on a monitor-TV and adjust for optimum noise condition (best tracking) by depressing "+" or "−" channel buttons during playback mode for digital tracking off.

SECTION 2
ELECTRICAL ADJUSTMENTS

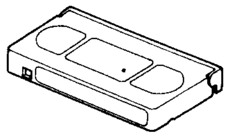
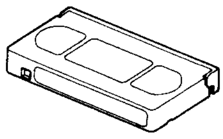
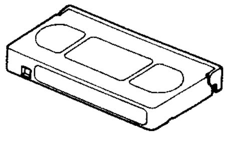
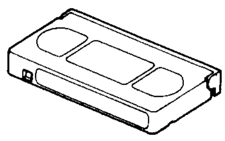
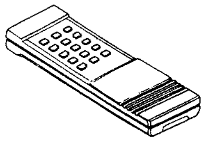
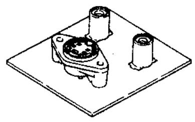
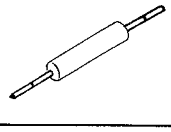
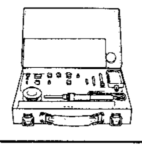
2.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to perfcrm these adjustments cnly after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the prcper equipment is available.

2.1.1 Required test equipment

1. Color television cr monitor.
2. Osciloscope: wide-band, dual-trace, triggered delayed sweep
3. Frequency counter
4. Audio oscillator
5. Audio voltmeter
6. Digital voltmeter
7. Signal generator: RF/IF sweep/marker
8. Signal generator: NTSC color bar,stairstep
9. Distortion meter
10. Recording tape

2.1.2 Required adjustment tools

Alignment tape MH-1	Alignment tape MH-1L
	
Alignment tape MH-1H	Alignment tape MH-F1
	
Presetting unit PTU94008	RCA-S Adapter PTU93001A
	
Adjustment driver YTU93004-2	*SMC replacement tools YTU94038B
	

*NOTE: *It is convenient for replacing chip parts.*

2.1.3 Color bar signal and pattern

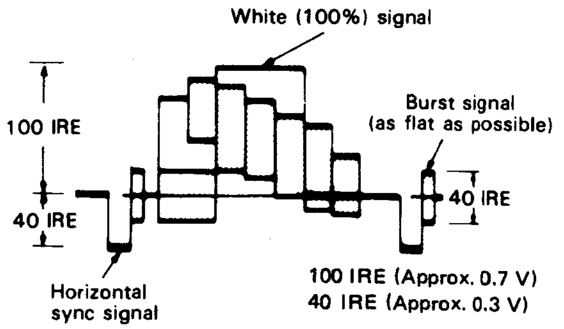

White (100%) signal
100 IRE
40 IRE
Burst signal
(as flat as possible)
40 IRE
Horizontal
sync signal
100 IRE (Approx. 0.7 V)
40 IRE (Approx. 0.3 V)

Fig. 2-1-1 Color bar signal of pattern generator

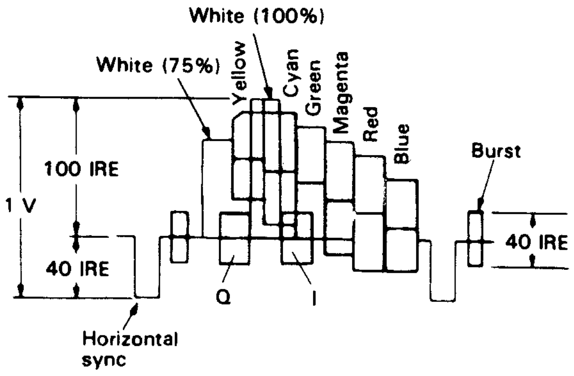
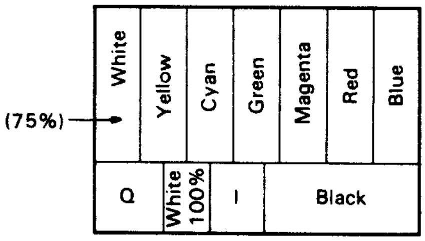

White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
100 IRE
1 V
40 IRE
40 IRE
Q
I
Horizontal
sync

Fig. 2-1-2 Color bar signal waveform



White	Yellow	Cyan	Green	Magenta	Red	Blue
Q	White 100%	I	Black			

Fig. 2-1-3 Color bar pattern

2.1.4. Way to refer to adjustment procedure table

Check and adjustment procedure of the electrical circuit is explained in tables by item. Pefer to the table as explained below.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
①	②	③	④	⑤	⑥	⑦

① No. : Number of inspection or/and adjustment item. It is advised to proceed in this numerical order.
② Item : Name of check/adjustment particlularily termed for servicing
③ Mode : Setting mode of the VTR for the check/adjustment

- EE : Electric-to-Electric mode (Stop state with pewer on)
- REC : Recording mode
- PB : Playback mode
- REC → PB(or another) : Perform recording first, then deal with the recorded portion in playback (or another) mode

④ Signal & Setting : Input signal and something requirod for the check/adjustment

- AUX color ber : Color bar signal input in AUX IN mode
- AUX no signal : No input signal in AUX IN mode
- Tuner : Tuner receiving mode (RF input)
- Alignment tape color bar : Playback of alignment tape's color bar signal
- Alignment tape stairstep : Playback of alignment tape's stairstep signal
- Alignment tape 1kHz : Playback of alignment tape's 1kHz signal
- SP : Standard play mode
- EP : Extended play (x3) mode
- Digital tracking ON : Digital tracking set to ON
- Digital tracking OFF : Digital tracking set to OFF (for manual tracking)

⑤ Measurement Point: Measuring peint such as test peint (TP) on P.C. board and pin of IC to connect measurement device for measurement/observation of waveform, voltage, frequency, etc.
⑥ Adjustment Parts : Symbol No. of variable compenents such as variable resistors, trimmer capacitors, etc. for adjustment
⑦ Adjustment Procedure : Preparation, order, manner, attentive matter, etc. to proceed check and adjustment

2.1.5 Confirmation

Before adjustment, use the MENU button function to set the CLOCK SET and TUNER SET.

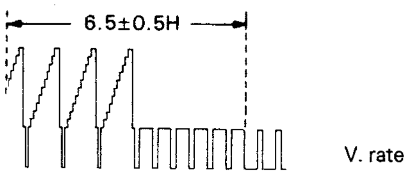
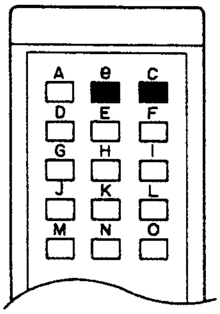
2.2 REGULATOR CIRCUIT

Note: *Unless otherwise specified, all measurement points aad adjastment parts are located on the* $\boxed{0}$ $\boxed{2}$ ***REGULATOR***

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Precedure
1	5V DC output	• REC	• TUNER • SP	• CN5 pin 1 (SWD 5V) • CN5 pin 2 (GND)	• R36 (SWD 5V)	1) Connect a digital voltmeter between CN5 pin 1 and CN5 pin 2. 2) Adjust R36 for 5.40 ±0.05V DC.

2.3 SERVO CIRCUIT

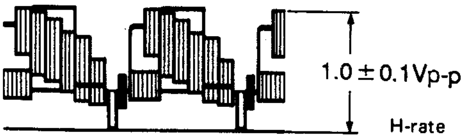
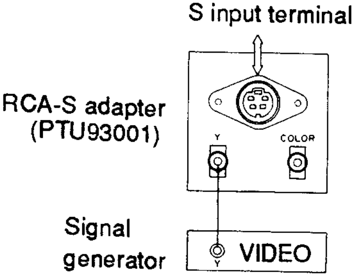
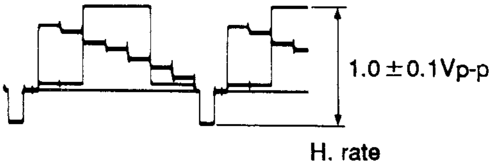
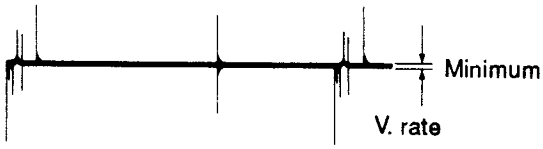
Note: ***Unless otherwise specified, all measurement points and adjustment parts are Located oa the 0 4 A/S/M board.***

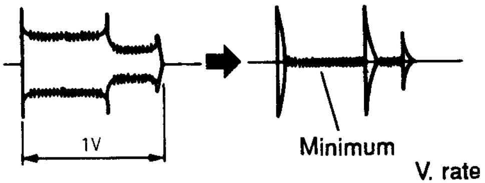
No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	SP PB switching point	• PB	• Alignment tape stairstep (MH-1) • SP • Trigger slope (-)  **Fig. 2-3-1** PB switching point	• TP10 (VIDEO OUT) 0 5 VIDEO • TP411 (DRUM FF) (Ext : trigger)	• R427 (SWITCHING POINT)	1) Connect an oscilloscope to TP10. 2) Play back the stairstep signal of the alignment tape. 3) Adjust R427 to position the trigger point 6.5H ± 0.5 H from V. sync.
2	Slow tracking preset	• REC ↓ PB (slow)	• SP • Auto tracking: OFF  A B C D E F G H I J K L M N O **Note:** *Use only buttons "R" and "C". Depressing other buttons during adjustments may cause adjustment errors.* **Fig. 2-3-2** Presetting unit	• TV monitor	• Presetting unit (PTU-94008)	**Note:** ***Set VCR to the mode A by rcmoto controller.*** 1) Receive a color broadcast on a VHF-HI channel or supply a color bar signal to VIDEO IN. 2) Record a color broadcast or color bar signal in the SP mode. 3) Use the MENU button function to set the AUTO TRACKING OFF setting. 4) Play back recorded signal on the FWD slow mode with variable SERCH button on the remote controller and set the tracking control of the FRONT panel to the center position by simultaneously pressing the "+CH" and "-CH" channel (tracking) buttons. 5) Observe the display on a monitor-TV and adjust for optimum noise condition (best tracking) by depressing "B(-)" or "C(+)" buttons of presetting unit as requirod. 6) Depress the STOP button. 7) Confirm that the bar noise is not visible on the monitor in the slow mode. 8) Repeat steps 4)~6) in REV slow mode. 9) Record a color broadcast or color bar signal in the EP mode. 10) Repeat steps 3) to 8).
		• REC ↓ PB (slow)	• EP			

2.4 VIDEO CIRCUIT

2.4.1 Normal VHS video circuit

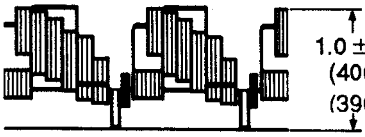
Note: *Unless otherwise specified, playback and recording modes are normal VHS mode, and all measurement points and adjustment parts are located on the* $\boxed{0}\boxed{5}$ *VIDEO board.*

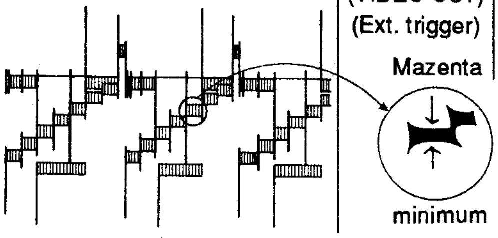
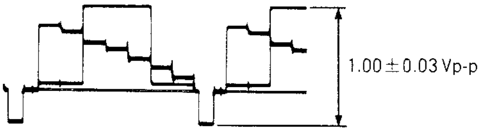
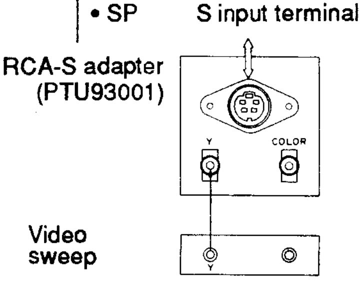
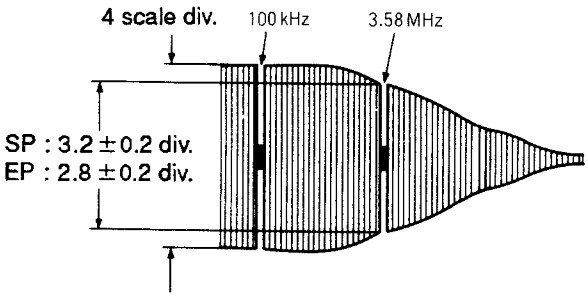
No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
1	EE Y level	• EE	• AUX color bar  1.0 ± 0.1Vp-p H-rate Fig. 2-4-1 VIDEO OUT	• TP10 (VIDEO OUT)	• R212 (EE Y LEVEL)	1) Connect an oscilloscope to TP10. 2) Adjust R212 for 1.0 ± 0.1Vp-p.
2	PB Y level	• REC ↓ PB	• S-IN color bar • SP  S input terminal RCA-S adapter (PTU93001) Y COLOR Signal generator Y VIDEO Fig. 2-4-2 S-IN  1.0 ± 0.1Vp-p H. rate Fig. 2-4-3 PB Y LEVEL	• TP10 (VIDEO OUT)	• R456 (N PB Y LEVEL)	1) Input color bar signal as in Fig. 2-4-2. 2) Connect an oscilloscope to TP10. 3) Record and play back a Y signal. 4) Adjust R456 for 1.0 ± 0.1 Vp-p.
3	Y NR NC balance	• PB	• Alignment tape EP color bar (MH-1L)  Minimum V. rate Fig. 2-4-4 YNR NC balance	• TP602	• R416 (YNC BALANCE)	1) Connect an oscilloscope to TP602. 2) Play back the color bar signal of the alignment tape. 3) Adjust R416 for minimum DC step difference.

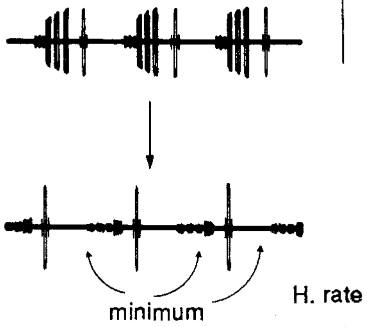
No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
4	CNR NC balance  Fig. 2-4-5 CNR NC balanco	• PB	• Alignment tape SP color bar (MH-1)	• TP604 (CNR NC)	• R402 (CNR NC BAL-1) • R646 (CNR NC BAL-2)	1) Connect an oscilloscope to TP604. 2) Play back the color bar signal of the alignment tape. 3) Adjust R402 and R646 alternately for minimum carrier level.

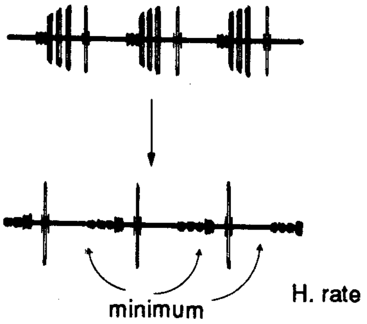
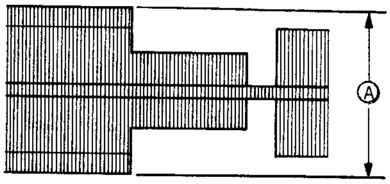
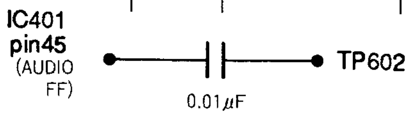
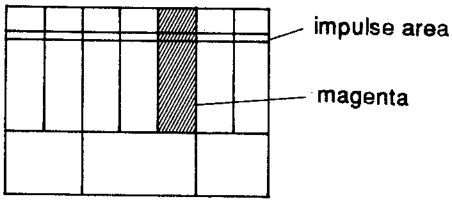
2.4.2 S-VHS video circuit

Note: *Unless otherwise specified, play back and recording modes are S-VHS mode, and all measurement points and adjustment parts are located on the 0 5 VIDEO board.*

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parte	Adjustment Procedure
1	AGC level  Fig. 2-4-6 AGC level-1	• EE	• S-IN color bar	• TP10 (VIDEO OUT) • TP900 • TP503	• R956 (AGC LEVEL-1) • R32 (AGC LEVEL-2) • R428 (AGC LEVEL-3)	1) Input color bar signal as in Fig. 2-4-2. 2) Connect an oscilloscope to TP10. 3) Rotate R956 fully clockwise on foil side. 4) Connect jump wire between TP900 and TP GND. 5) Adjust R32 for 1.0 ± 0.1Vp-p. 6) Connect an oscilloscope to TP503. 7) Adjust R428 for 400 ± 10mVp-p. 8) Disconnect jump wire. 9) Adjust R956 for 390 ± 10mVp-p.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
2	Y comb	• EE	• AUX Color bar  Fig. 2-4-7 Y comb H. rate	• TP504 (Y COMB) • TP10 (VIDEO OUT) (Ext. trigger)	• R261 (Y COMB GAIN-1) • R270 (Y COMB GAIN-2)	1) Connect an oscilloscope to TP504. 2) Use the controls of the oscilloscope to expand portion mazenta of the waveform. 3) Adjust R261 and R270 alternately for minimum carrier level.
3	PB Y level	• REC ↓ PB	• S-IN color bar • SP  Fig. 2-4-8 PB Y level	• TP10 (VIDEO OUT)	• R454 (S PB Y LEVEL)	1) Input color bar signal as in Fig. 2-4-2. 2) Connect an oscilloscope to TP10. 3) Record and playback a Y signal in S-VHS mode. 4) Adjust R454 for 1.0 ± 0.1 Vp-p. **Note:** ***Picture noise appears in TV monitor, but there is no effect for the adjustment.***
4	Frequency responce	• REC ↓ PB	• S-IN Video Sweep • SP  S input terminal RCA-S adapter (PTU93001) Y COLOR Video sweep Y Fig. 2-4-9  Fig. 2-4-10 S-IN V. rate	• TP10 (VIDEO OUT)	• R56 (S SP FREQUENCY) $\boxed{4}$ $\boxed{3}$PRE/REC	1) Input video sweep signal as in Fig. 2-4-9. 2) Connect an oscilloscope to TP10. 3) Record and play back the video sweep signal in S-VHS SP mode. 4) If the sweeper's 100KHz marker frequency is for 4 scale divisions on the oscilloscope screen, adjust R56 so that 3.58MHz marker level becomes 3.2 scale divisions.

No.	Item	Mode	Signal & Setting	Measurement point	Adjuetment parte	Adjustment Procedure
			• EP		• R58 (S EP FREQUENCY) [4] [3]PRE/REC	5) Record and play back the video sweep signal in S-VHS EP mode. 6) Adjust R58 so that 3.58MHz marker level becomes 2.8 scale divisions.
		• REC ↓ PB	• SP	• TV monitor	• R56 (S SP FREQUENCY) [4] [3]PRE/REC	Alternate method 1) Record the color bar signal in S SP mode and play it back to obsereve the picture and adjust R56 for the best resolution, without impaired S/N. 2) So after adjustment, confirm black or white spot.
			• EP		• R58 (S EP FREQUENCY) [4] [3]PRE/REC	3) Record the color bar signal in S EP mode and play it back tc observe the picture and adjust R58 for the best resolution, without impaired S/N. 4) So after adjustmemt, confirm black or white spot.
5	0H-1H Color comb	• EE	• AUX multiburst  Fig. 2-4-11 0H-1H color comb	• TP36 (COLOR CQMB) • TP32 • TP SW5V	• R229 (COLOR COMB GAIN-1) • R264 (COLOR COMB PHASE-1)	1) Connect an oscilloscope to TP36. 2) Connect jump wire between TP32 and TP SW5V. 3) Adjust R229 and R264 alternatly for minimum carrier level.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment perte	Adjustment Procedure
6	1H-2H Color Comb  Fig. 2-4-12 1H-2H color comb	• EE	• AUX multiburst	• TP36 (COLOR COMB)	• R243 (COLOR COMB GAIN-2) • R265 (COLOR COMB PASE-2)	1) Connect an oscilloscope to TP36. 2) Connect jump wire between TP32 and TP SW5V. 3) Adjust R243 and R265 alternatly for minimum carrier level. 4) Disconnect jump wire between TP32 and TP SW5V. 5) Re-adjust R243 and R265 alternatly for minimum carrier level.
7	Color comb  Fig. 2-4-13 color comb	• EE	• AUX color bar	• TP601 (COLOR COMB-3) • TP603	• R621 (COLOR COMB GAIN-3)	1) Connect an oscilloscope to TP601. 2) Make a note of the color level as " Ⓐ ". 3) Connect jump wire between TP603 and TP GND. 4) Adjust R621 so that color level is " Ⓐ ".
8	Color comb phase  Fig. 2-4-14 capacitor  Fig. 2-4-15 TV monitor	• PB	• Alin ment tape SP color bar (MH-1)	• TP602 (NC IN) • IC401 pin 45 (AUDIO FF) 0 4 A/S/M	• L601 (COLOR COMB PHASE-3)	1) Connect a capacitor (0.01 μ F) between IC401 pin 45 and TP602. 2) Playback the color bar signal of the alingnal tape. 3) Observe a color bar on the TV monitor. 4) Adjust L601 to obtain mazenta color bar picture get same color, especially applied impulse area.

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
9	REC color level	• REC	• AUX color bar	• TP5 (REC COLOR) $\boxed{4}$ $\boxed{3}$PRE/REC	• R44 (S SP REC COLOR) $\boxed{4}$ $\boxed{3}$PRE/REC	1) Connect an oscilloscope to TP5. 2) Record the color bar signal in S SP mode. 3) Adjust R44 for 130 ± 10mVp-p.
					• R45 (S EP REC COLOR) $\boxed{4}$ $\boxed{3}$PRE/REC	4) Record the color bar signal in S EP mode. 5) Adjust R45 for 140 ± 10mVp-p.

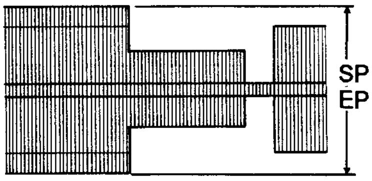


Fig. 2-4-16 REC color level

2.5 AUDIO CIRCUIT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on the* $\boxed{0}\boxed{4}$ *V/S/M board.*

No.	Item	Mode	Signal & Setting	Measurement point	Adjuetment parte	Adjustment Precedure
1	Audio bias level	• REC	• AUX no signal • EP	• TP31 (BIAS[+1]) • TP32 (BIAS[-1])	• R239 (BIAS LEVEL)	1) Connect a millivoltmeter between TP31 and TP32. 2) Record no signal in EP mode. 3) Adjust R239 for 3.0 mVrms.
			• SP			4) Record no signal in SP mode. 5) Adjust R239 for 2.8 ±0.2mVrms.
2	Carrier frequency	• EE	• AUX no signal	• TP51 (L CARRIER OUT) • TP52 (R CARRIER OUT)	• R54 (L CARRIER) • R65 (R CARRIER)	1) Connect a frequency counter to TP51. 2) Adjust R54 for 1.3MHz ±20KHz. 3) Connect a frequency counter to TP52. 4) Adjust R65 for 1.7MHz ±20KHz.
3	PB audio level	• PB	• Alignment tape (MH-F1) • Digital tracking: OFF	• Audio OUT (L CH)	• R49 (L PB LEVEL)	1) Connect an audio tester to audio out (left channel). 2) Playback the Hi-Fi 1KHz of the alignment tape. 3) Adjust R49 for -8 dB (0.9 Vp-p, 0.32 Vrms).
				• Audio OUT (R CH)	• R70 (R PB LEVEL)	4) Connect an audio tester to audio out (right channel). 5) Playback the Hi-Fi 1KHz of the alignment tape. 6) Adjust R70 for -8 dB (0.9Vp-p, 0.32 Vrms).

No.	Item	Mode	Signal & Setting	Measurement point	Adjuetment parte	Adjustment Procedure
4	Audio REC FM level	• REC ↓ • PB	• AUX no signal • S-VHS • EP	• TP54 (A REC FM) 4 3 PRE/REC • IC401 pin45 (AUDIO FF) (Ext. trigger)	• R216 (A REC FM LEVEL) 4 3 PRE/REC	1) Connect an oscilloscope to TP54. 2) Record no signal in S EP mode and playback it. 3) Adjust R218 so that the higher channel level is 130 ± 10mVp-p.

2.6 ON SCREEN CIRCUIT

Note: *Unless otherwise spccified, all measarement points and adjustment parts are located on the* 0 5 *VIDEO board.*
: *For the following adjustments, use 1 : 1 probe with input capacitance less than 100pF.*

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parte	Adjustment Procedure
1	DOT clock	• EE	• AUX no signal	• TP901 (COT CLOCK)	• C921 (DOT CLOCK)	1) Connect a frequency counter to TP901. 2) Short IC902 pin 3 to TP GND and pin 30 to TP SW5V. 3) Adjust C921 for 7.70 ± 0.05MHz.
2	Sub cerrier	• EE	• AUX no signal	• TP902 (COLOR BURST)	• C913 (COLOR BURST)	1) Connect a frequency counter to TP902. 2) Adjust C913 for 14.31818±0.00015MHz.

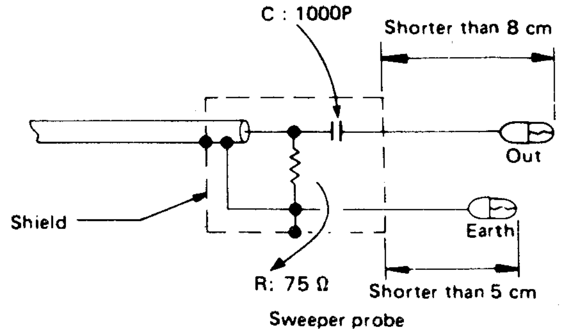
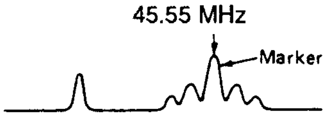
2.7 TIMER CIRCUIT

Note: *Unless otherwise specified, all test points and adjustments are located* 2 0 *TIMER board.*
: *For the following adjustment, use 10 : 1 probe.*

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parte	Adjustment Procedure
1	Timer clock	• EE	• AUX no signal	• IC101 pin37	• C112 (Timer clcck)	1) Connect a frequency counter to IC101 pin 37. 2) Short IC101 pin 18 to TP GND. 3) Short the lead's of capacitor C102 once in erder to reset IC101. 4) Adjust C112 for 488.2813 ± 0.0005μ sec (2048.000±0.002Hz).

2.8 TUNER/IF CIRCUIT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on the* $\boxed{0}$ $\boxed{8}$ *TUNER UNIT board.*

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parts	Adjustment Procedure
Equipment requirod; 1. Oscilloscope 2. IF sweep signal generator with suitable markers (PIF, SIF, etc.) 3. Sweeper probe (sweep signal supply cable) as shown in Fig. 2-8-1						 C : 1000P Shorter than 8 cm Out Shield Earth R: 75 Ω Shorter than 5 cm Sweeper probe Fig. 2-8-1 Sweeper probe
1	VCO	• EE	• Tuner  VCO and sweep signal (beat) Fig. 2-8-2 VCO	• IC1-17	• T3 (VCO)	1) Use a sweeper probe as shown in Fig. 2-8-1 and connect the sweep signal generator output to pin 1 of IC1. 2) Short IC1 pin 13 to GND. 3) Adjust the sweep gain so that the waveform dose not distort as observed with the oscilloscope. 4) Connect the oscilloscope te pin 17 of IC1 (VIDEO DET OUT) and adjust T3 to align the waveferm with the frequency marker as shown in Fig 2-7-2.
			• Tuner • TV broadcast	• TV monitor	• T3 (VCO)	Alternate method: 1) Recoive a color broadcast on a VHF-HI channel (7 to 13). 2) Adjust T3 to obtain a fine picture on the monitor.

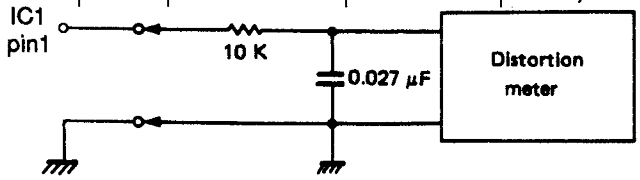
<table>
<tr><th>No.</th><th>Item</th><th>Mode</th><th>Signal & Setting</th><th>Meaeurement point</th><th>Adjuetment parte</th><th>Adjustment Procedure</th></tr>
<tr><td rowspan="3">2</td><td colspan="5">○ Before the following adjustment:
1. Connect a cable to ANT IN and terminate TV OUT at 75Ω.
2. Set a TV channel signal generator as follows.
Video : 70 dBμ/75Ω, color bar 87.5% modulation
Audio : 62 dBμ/75Ω, 1kHz 25kHz deviation</td><td></td></tr>
<tr><td rowspan="2">RF AGC</td><td rowspan="2">○ EE</td><td rowspan="2">○ Tuner
• TV broadcast</td><td>○ Front end</td><td>○ R6
(RF AGC)</td><td>1) Connect the oscilloscope to IF terminal of U/V Tuner (Front end). Adjust R6 for maximum level, then again adjust R6 for-7 dB again.</td></tr>
<tr><td>○ TV monitor</td><td></td><td>Alternete method:
Note: <i>Adjust R6 (RF ACC) to correct for excess noise in the picture or when streaky cross intorference occurs due to strong electrical fields.</i>
1) Adjsut R6 to minimize noise or streaks on the TV screen.
2) Check for absence of abnormality on all channels.</td></tr>
<tr><td rowspan="3">3</td><td>SOUND DET.</td><td>○ EE</td><td>○ Tuner
○ TV broadcast</td><td>○ IC1 pin 1</td><td>○ T1
(SOUND DET)</td><td rowspan="2">1) Use a adjustment circuit as shown if Fig. 2-8-3, and connect a distortion meter as shown in Fig. 2-8-3.
2) Receive a color broadcast on a VHF 6ch.
3) Adjust T1 for minimum distortion (less than 0.5%).</td></tr>
<tr><td colspan="5">

Fig. 2-8-3 Adjustment circuit</td></tr>
<tr><td></td><td></td><td></td><td>○ IC1 pin 1</td><td></td><td>Alternate method:
1) Receive a color broadcast on a VHF-HI channel (7 to 13). Connect an oscilloscope to IC1 pin 1.
2) Adjust T1 for maximum level at audio sound.</td></tr>
<tr><td>4</td><td>AFC</td><td>• EE</td><td>○ Tuner
○ TV broadcast</td><td>○ CN2 pin 2</td><td>○ T2
(AFC)</td><td>1) Receive a color bradcast on a VHF-HI channel (7 to 13).
2) Connect an oscilloscope to CN2 pin 2.
3) Set the oscilloscope to DC mode and adjust T2 to set the lower edge of the ripple waveform to 2.2±0.2VDC.</td></tr>
</table>

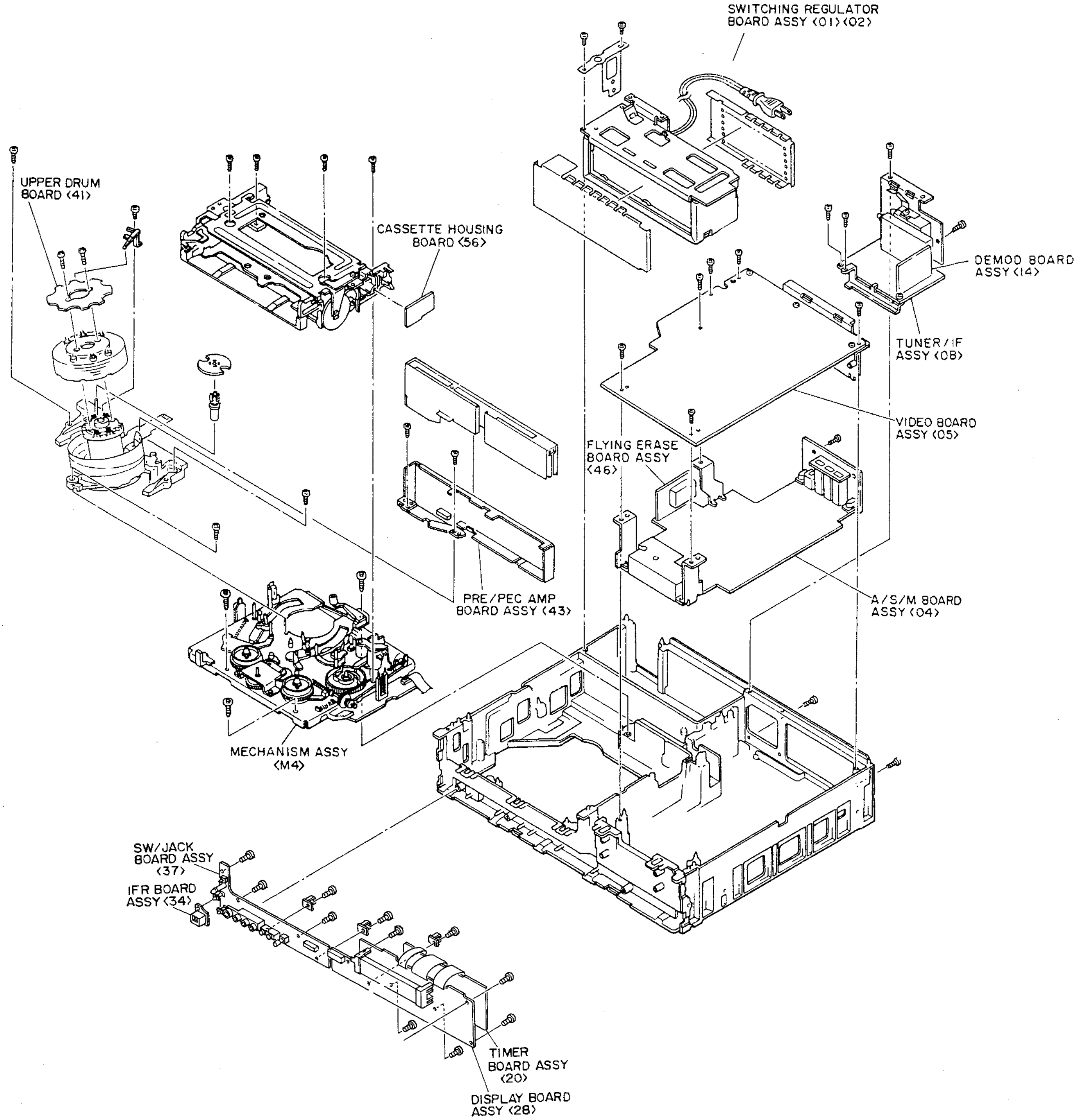
2.9 DEMODULATOR CIRCUIT

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on the* 1 4 ***DEMODLATOR board.***

No.	Item	Mode	Signal & Setting	Measurement point	Adjustment parte	Adjustment Procedure
1	STEREO VCO	• EE	• Tuner no signal	• IC201 pin36	• R204 (STEREO VCO)	1) Connect the 100KΩ resistor between pin 10 of IC201 and pin 12 of IC201. 2) Connect a frequency counter to IC201 pin 36. 3) Adjust R204 for 15.73 KHz.
2	LOW PASS FILTER	• EE	• Tuner no signal	• IC201 pin 17	• R201 (FILTER)	1) Connect an oscilloscope to pin 17 of IC201. 2) Adjust R201 for minimum waveform.
3	STEREO SEPARATION	• EE	• Tuner (96 dBμ, 1 kHz)	• IC201 pin 28	• R202 (SEPA-1) • R203 (SEPA-2)	1) Use a sweeper probe as shown in Fig. 2-8-1. 2) Supply 300 Hz L-only modulated IF signal to IF terminal of U/V tuner (front end). 3) Connect an oscilloscope to pin 28 of IC201. 4) Adjust R202 for minimum output level. 5) Supply 5 kHz L-only modulated IF signal to IF terminal of U/V tuner (front end). 6) Connect an oscilloscope to pin 28 of IC201. 7) Adjust R203 for minimum output levol.

SECTION 3
CHARTS AND DIAGRAMS

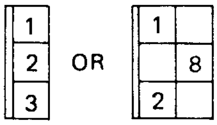
3.1 CIRCUIT BOARD LOCATION


SWITCHING REGULATOR BOARD ASSY <01><02>
UPPER DRUM BOARD <41>
CASSETTE HOUSING BOARD <56>
DEMOD BOARD ASSY <14>
TUNER/IF ASSY <08>
VIDEO BOARD ASSY <05>
FLYING ERASE BOARD ASSY <46>
PRE/PEC AMP BOARD ASSY <43>
A/S/M BOARD ASSY <04>
MECHANISM ASSY <M4>
SW/JACK BOARD ASSY <37>
IFR BOARD ASSY <34>
TIMER BOARD ASSY <20>
DISPLAY BOARD ASSY <28>

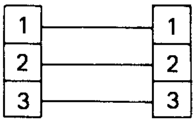
3.2 GENERAL INFOMATION

3.2.1 Connections

Note:
Unless otherwise specified, only signal input flow is indicated.
Connection arrows indicate only signal outputs.



: Connectors



: Board in connectors

① ② ③ OR ○ ○ ○ : Direct connections

(VS) (MS) (SM) : Connected pattern in the board.

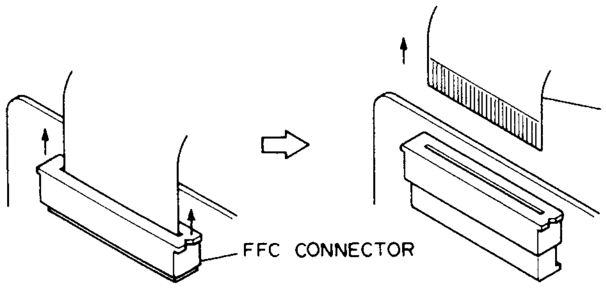
Abbreviations

V	Video	M	Mechacon
S	Servo	A	Audio

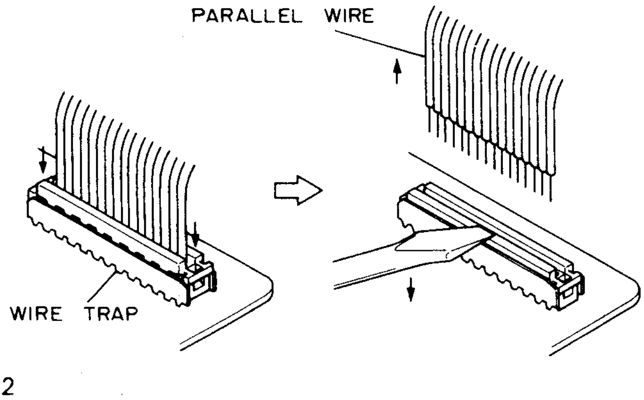
VS : Signal flow from video to servo.

3.2.2 Disconnecting the flatwire

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

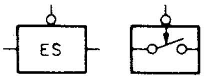


2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.

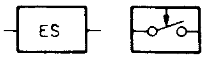


3.2.3 Indications

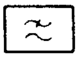
AUX : Active only at high.
$\overline{AUX}$: Active only at low.
$\bar{A}\bar{U}\bar{X}$: Active only at middle.
$\bar{A}U\bar{X}$: Active only at open.



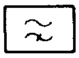
: Active only at low for electronic switch.



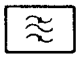
: Active only at high for electronic switch.



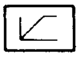
: Low pass filter.



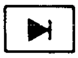
: High pass filter.



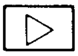
: Band pass filter.



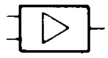
: Limiter.



: Detector



: Amplifier.



: Mixer stage.

3.2.4 Schematic diagram values

Unless otherwise specified.

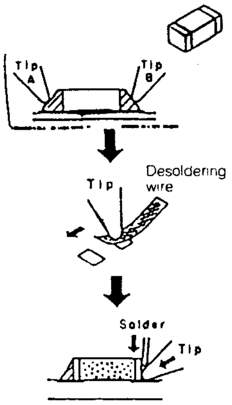
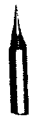
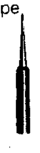
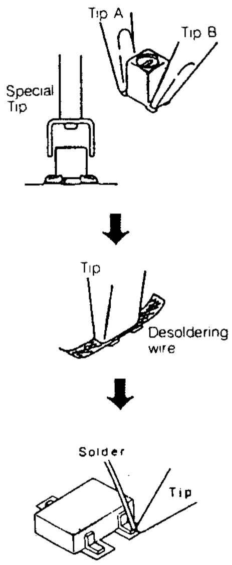
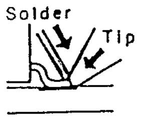
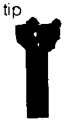
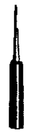
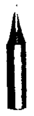
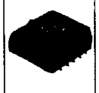
1. All resistance values are in ohms, 1/6 W or 1/8 W (refer to parts list).
2. All capacitance values are in μF, (P; PF).
3. All inductance values are in μH, (m; mH).
4. All diodes are 1SS133 or MA165, (refer to parts list).
5. Voltages are DC-measured (reference to ground) with a digital voltmeter during recording (SP mode) and playback (SP mode) with alignment tape. Where voltages differ between recording and playback, the voltage during playback is shown in parenthesis.
6. Waveforms (VIDEO System) are measured (reference to ground) with a color bar during recording (SP mode) and playback (SP mode) with alignment tape.
7. Waveforms (AUDIO System) are measured (reference to ground) with 1 kHz (–8 dBs) during recording and playback with alignment tape (1 kHz).
8. Shaded (▒) parts are critical for safety. Replace only with specified part numbers.

3.2.5 Signal flow in the schematic

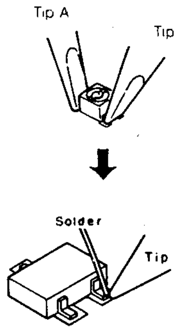
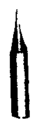
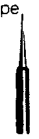
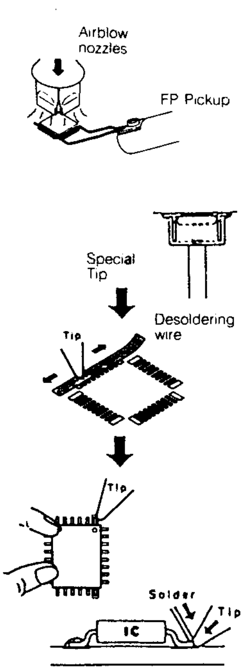
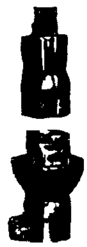
➡ Recording signal path
⇨ Playback signal path
➡ REC/PB signal path

3.2.6 Basic knowledge of SMC* parts replacement

Note: *For details, refer to "VIDEO SERVICE GUIDE" (VTS81001).*

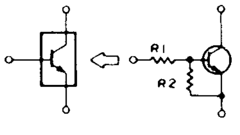
Products	Appearance	Replacement technology	Removal method	Installation method	Soldering tip types	Cautions
Thick Film Chip Resistors			• **Uso 2 soldering Irons** 1. Use thin tip soldering irons. 2. Use soldering tip temperature of about 280°C. 3. Simultaneously heat both ends of the part. 4. While heating, grasp the part with the tips of the soldering irons and remove it. 5. Use desoldering wire to completely remove the old solder from the part lecation of the board. 6. A clean pattern for installing the new part is very important.	1. Clean the area where the new part is to be moundted (use alcohol). 2. Apply flux. 3. Set part correctly into position, prevent it from shifting. 4. Bring the soldering iron tip close to the part contact without actually touching it. Melt thin (0.3 mm) solder between the tip and part so that it flows into the part contact. 5. Check work quality with a magnifier.	Thin tip type  Small flat-blade tip type 	Some parts can be damaged by sudden heating. Preheat the part at about 100°C for several minutes before installing it. Do not touch the part body with the soldering iron. The thin (0.3 mm) solder for miniature parts does not contain adequate flux. Supplementary flux is thus needed in most cases. Set the position carefully and secure the part. A defective trimming resistor cannot be adjusted externally. Replace with an ordinary variable resistor.
Carbon Film Chip Resitors						
Metal Film Chip Resistors						
Chip Ceramic Capacitors						
Chip Triming Resistors						
Chip Inductors		 Tip A Tip B Special Tip Tip Desoldering wire Solder Tip	• **Special dssoldering iron** 1. Select soldering tip according to part size. 2. Bring the tip into contact with the soldered points. 3. When the solder melts, remove the part. 4. Remove the old solder with desoldering wire. • **2 soldering irons** 1. Use small flat-blade tips. 2. Heat both ends of the part simultaneously. 3. When the solder melts, grasp and remove the part with the soldering iron tips. 4. Remove the old solder with desoldering wire.	1. Clean the area where the new part is to be mounted (use alcohol). 2. Apply flux. 3. Set part correctly into position, prevent it from shiffing. 4. Use sharp soldering iron tip. Bring closo to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.  5. Check work quality with a magnifier.	Special Soldering tip  Small flat-blade tip type  Thin tip type 	Use care not to damage plastic components when soldering. Position the part carefully. This will also affect the soldering operation. Use care regarding soldering iron tip and avoid rapidly heating parts. For larger parts, use a slightly higher temperature (about 300°C). Check after installing (cold solder joints, etc.). Use care not to damage the circuit pattern, especially when removing.
Chip Resistor Networks						
Chip Tantalum Capacitors						
Chip Tantalum Electrolytic Capacitors						
Chip Aluminum Electrolytic Capacitors						
Chip Transformers						
Chip Filters						

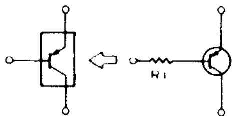
* SMC: Surface Mounted Component

Products	Appear-ance	Replacement technology	Removal method	Installation method	Soldering tip types	Cautions
Chip VRs			• **2 soldering irons** 1. Use small flat-blade tips. 2. Heat the leads of the part simultaneously. 3. When the solder melts, grasp and remove the part with the soldering iron tips. 4. Remove the old solder with desoldering wire.	1. Clean the area where the new part is to be moundted (uso alcohol). 2. Apply flux. 3. Set part correctly into position, prevent it from shifting. 4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.	Thin tip type  Small flat-blade tip type 	Use care not to damage the part when soldering. Check for solder joints, expecially miniature parts with small leads.
Chip Trimmer Capacitors						
Diodes						
Transistors						
IC (SOP) (Small Outline Package)		 Airblow nozzles FP Pickup Special Tip Desoldering wire Tip Tip Solder Tip IC	• **Specisl desoldering iron** 1. Select the tip according to the size and shape of the IC. 2. "Tin" the tip with a small amount of solder. 3. Set the tip squarely over the IC leads. 4. When the solder melts, carefully twist the iron. 5. Raise and remove the IC. • **Shaped airblower unit** 1. Select the correct nozzle. 2. Select the temperature and airblow (suggested: temp. 7, airblow 4). 3. Engage the IC removing tool. 4. Use the airblow to preheat the IC for about 5 seconds, then heat with the nozzle until the IC remover lifts the part from the board.	1. Use desoldering wire to remove the previous solder. 2. Clean the location with alcohol. 3. Apply flux. 4. Position the IC and solder two pins at opposite sides. 5. Use a sharp tipped soldering iron and carefully solder each pin. (After gaining experience, a thicker tip can be used for better work efficiency.) 6. Remove any solder bridges with desoldering wire. 7. Inspect the work with a magnifier.	Special soldering tips. Airblow nozzles 	Do not reuse removed parts. Use care to avoid solder bridges. Remove any that occurs. Remove the old IC carefully so as not to damage the circuit pattern. Because of the many pins, cleanliness of the pattern is extremely important after removing the IC. Be very precise in positioning the IC. Soldering opposite pins first holds the IC in place and makes soldering the other pins easier. It is important to inspect the work with a magnifier. ICs (especially TSOP) are easily damaged by heat. Do not touch directly with the soldering iron.
IC (SSQP) (Shrink Small Outline Package)						
IC (VSOP) (Very Small Outline Package)						
IC (QFP) (Ouad Flat Package)						
IC (VQFP) (Very Small Quad Flat Package)						
IC (PLCC) (Plastic Leaded Chip Carrier)						
IC (TSOP) (Thin Small Outline Package)						

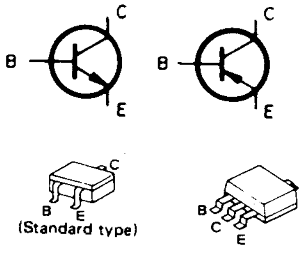
3.2.7 Semiconductors

1. Digital transistor

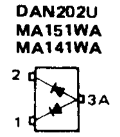


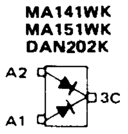


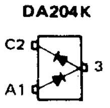
2. Chip transistor

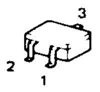


3. Chip diode





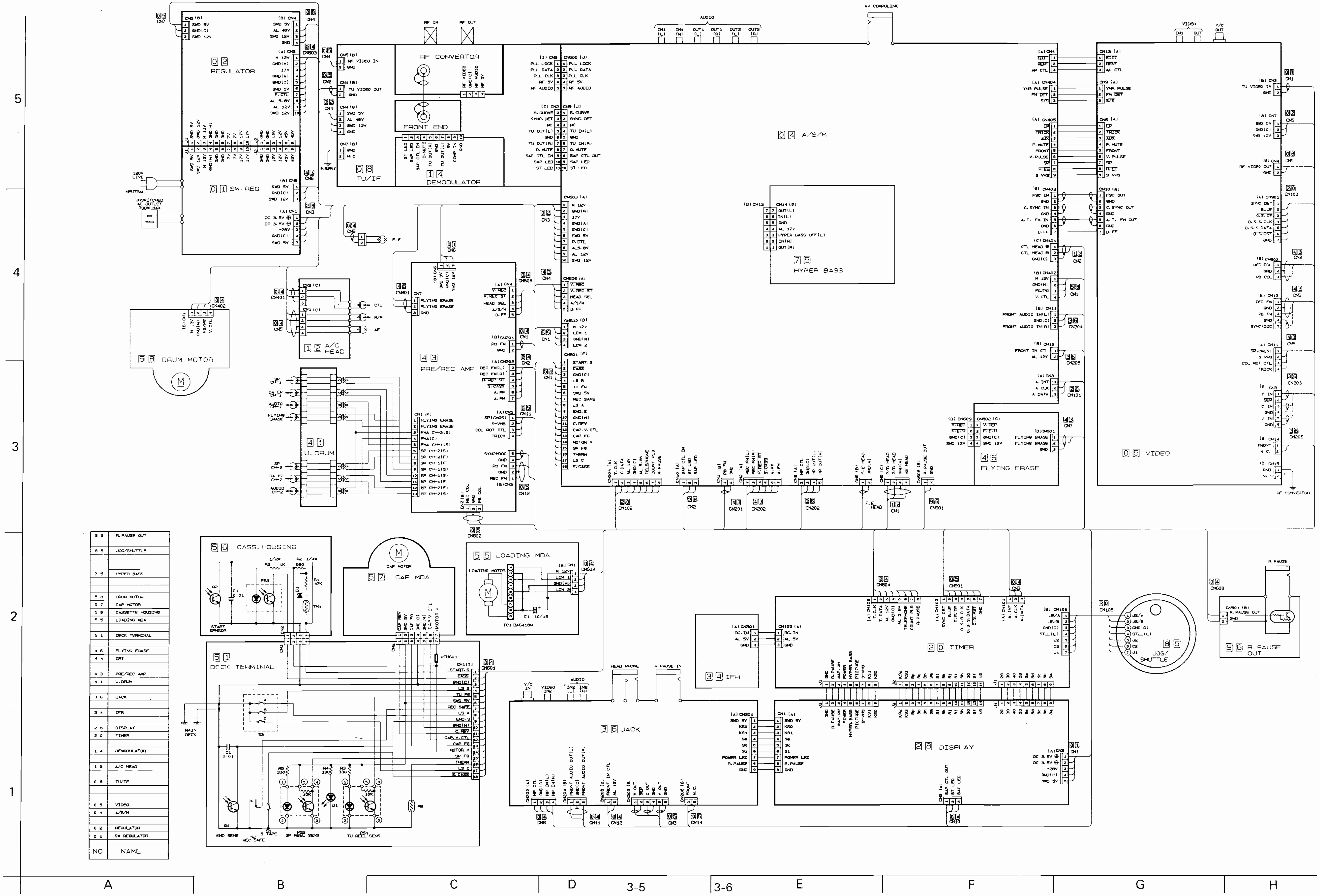




Note: The digital transistor includes built in resistors. It features small size and high reliability. Both PNP and NPN types are available.

Uses: Inverter, interface, driver circuits.

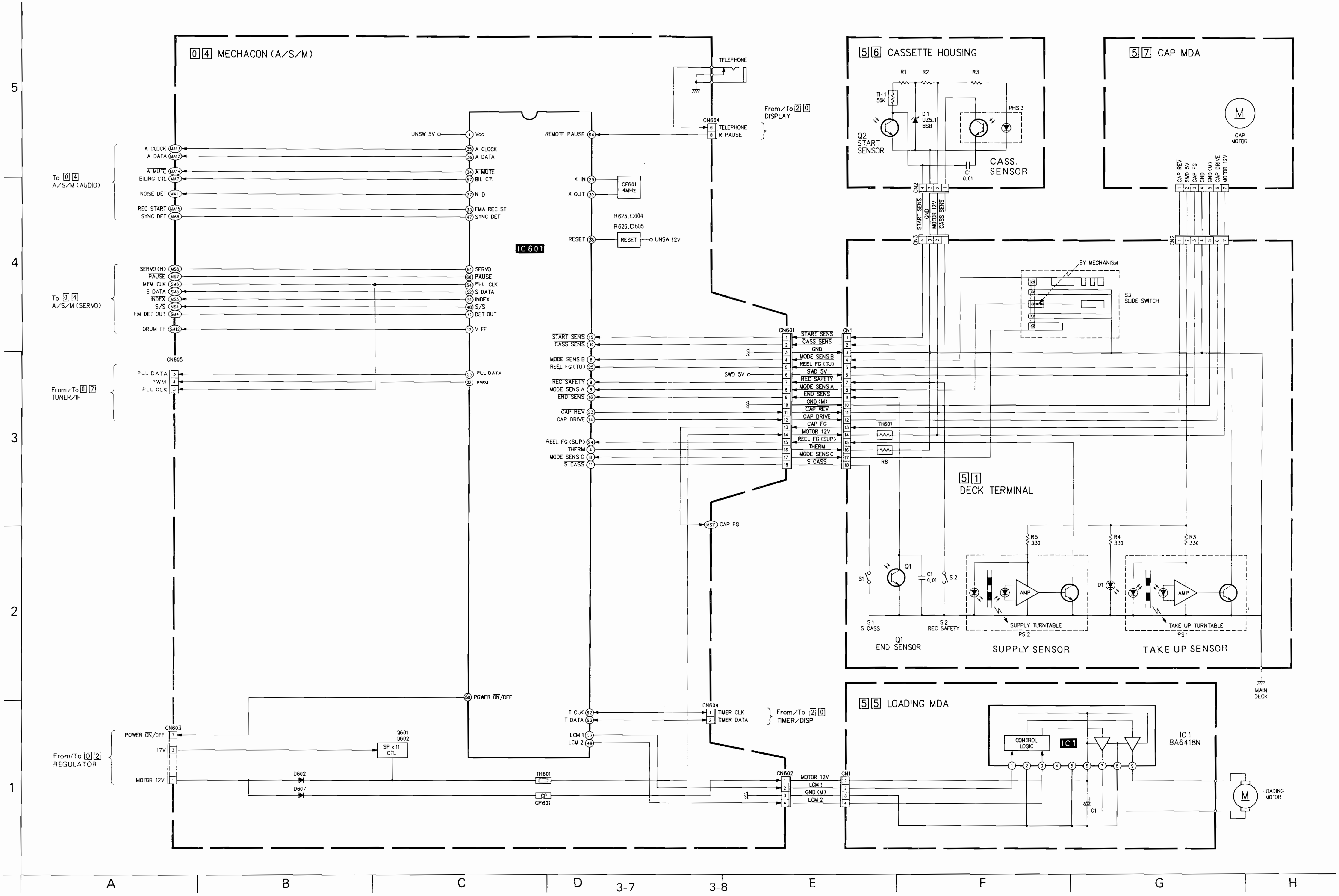
3.3 BOARD INTERCONNECTIONS



0 2 REGULATOR
0 1 SW. REG
5 8 DRUM MOTOR
0 8 TU/IF
RF CONVERTOR
FRONT END
1 4 DEMODULATOR
RF IN
RF OUT
AUDIO
AV COMPULINK
VIDEO
Y/C OUT
0 4 A/S/M
7 5 HYPER BASS
0 5 VIDEO
4 6 FLYING ERASE
1 2 A/C HEAD
4 1 U. DRUM
4 3 PRE/REC AMP
5 6 CASS. HOUSING
5 7 CAP MDA
5 5 LOADING MDA
5 1 DECK TERMINAL
3 6 JACK
3 4 IFR
2 0 TIMER
2 8 DISPLAY
8 5 JOG/SHUTTLE
9 6 R. PAUSE OUT
120V LIVE
NEUTRAL
UNSWITCHED AC OUTLET 300W MAX
MAIN DECK
HEAD PHONE
R. PAUSE IN
IC1 BA6418N
A
B
C
D
E
F
G
H
1
2
3
4
5

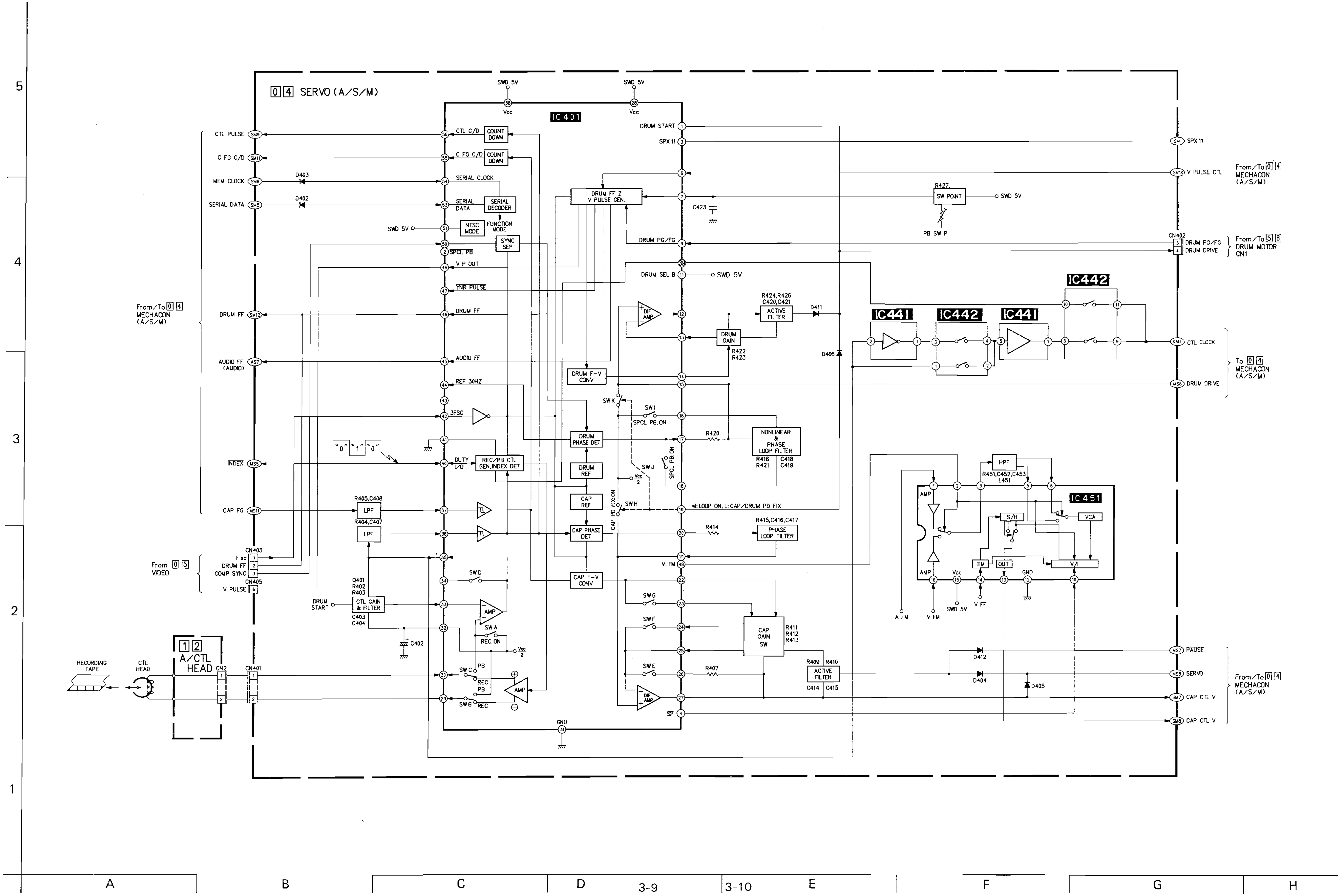
NO	NAME
9 6	R. PAUSE OUT
8 5	JOG/SHUTTLE
7 5	HYPER BASS
5 8	DRUM MOTOR
5 7	CAP MOTOR
5 6	CASSETTE HOUSING
5 5	LOADING MDA
5 1	DECK TERMINAL
4 6	FLYING ERASE
4 4	CRI
4 3	PRE/REC AMP
4 1	U. DRUM
3 6	JACK
3 4	IFR
2 8	DISPLAY
2 0	TIMER
1 4	DEMODULATOR
1 2	A/C HEAD
0 8	TU/IF
0 5	VIDEO
0 4	A/S/M
0 2	REGULATOR
0 1	SW REGULATOR

3.4 MECHANISM CONTROL BLOCK DIAGRAM



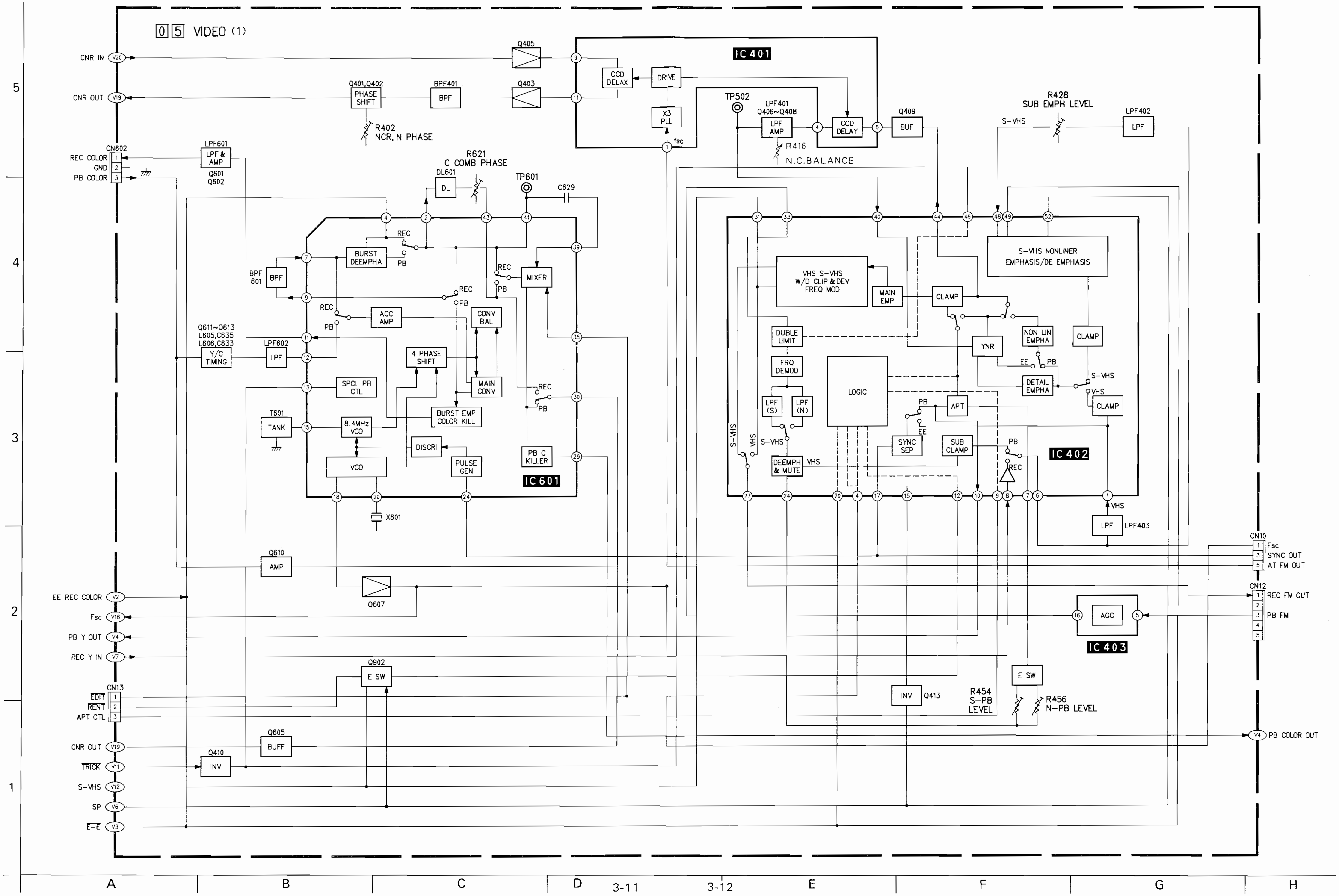
0 4 MECHACON (A/S/M)
IC601
To 0 4 A/S/M (AUDIO)
A CLOCK
A DATA
A MUTE
BILING CTL
NOISE DET
REC START
SYNC DET
To 0 4 A/S/M (SERVO)
SERVO (H)
PAUSE
MEM CLK
S DATA
INDEX
S/S
FM DET OUT
DRUM FF
CN605
From/To 0 7 TUNER/IF
PLL DATA
PWM
PLL CLK
UNSW 5V
Vcc
FMA REC ST
N D
BIL CTL
DET OUT
V FF
REMOTE PAUSE
X IN
X OUT
CF601 4MHz
R625, C604
R626, D605
RESET
UNSW 12V
TELEPHONE
CN604
R PAUSE
From/To 2 0 DISPLAY
START SENS
CASS SENS
MODE SENS B
REEL FG (TU)
REC SAFETY
MODE SENS A
END SENS
CAP REV
CAP DRIVE
REEL FG (SUP)
THERM
MODE SENS C
S CASS
SWD 5V
CN601
CN1
GND
GND (M)
CAP FG
MOTOR 12V
TH601
R8
MS11 CAP FG
POWER ON/OFF
T CLK
T DATA
LCM 1
LCM 2
TIMER CLK
TIMER DATA
From/To 2 0 TIMER/DISP
CN603
From/To 0 2 REGULATOR
17V
MOTOR 12V
Q601
Q602
SP x 11 CTL
D602
D607
CP
CP601
CN602
5 6 CASSETTE HOUSING
R1
R2
R3
TH1 50K
D1 UZ5.1 BSB
PHS 3
Q2 START SENSOR
C1 0.01
CASS. SENSOR
CN2
CN3
5 7 CAP MDA
M
CAP MOTOR
CAP REV
SWD 5V
CAP FG
GND
GND (M)
CAP DRIVE
MOTOR 12V
BY MECHANISM
S3 SLIDE SWITCH
5 1 DECK TERMINAL
R5 330
R4 330
R3 330
Q1
C1 0.01
S1
S2
D1
AMP
S1 S CASS
S2 REC SAFETY
Q1 END SENSOR
SUPPLY TURNTABLE
PS 2
SUPPLY SENSOR
TAKE UP TURNTABLE
PS 1
TAKE UP SENSOR
MAIN DECK
5 5 LOADING MDA
CONTROL LOGIC
IC 1
IC 1 BA6418N
C1
LOADING MOTOR
5
4
3
2
1
A
B
C
D
E
F
G
H

3.5 SERVO BLOCK DIAGRAM



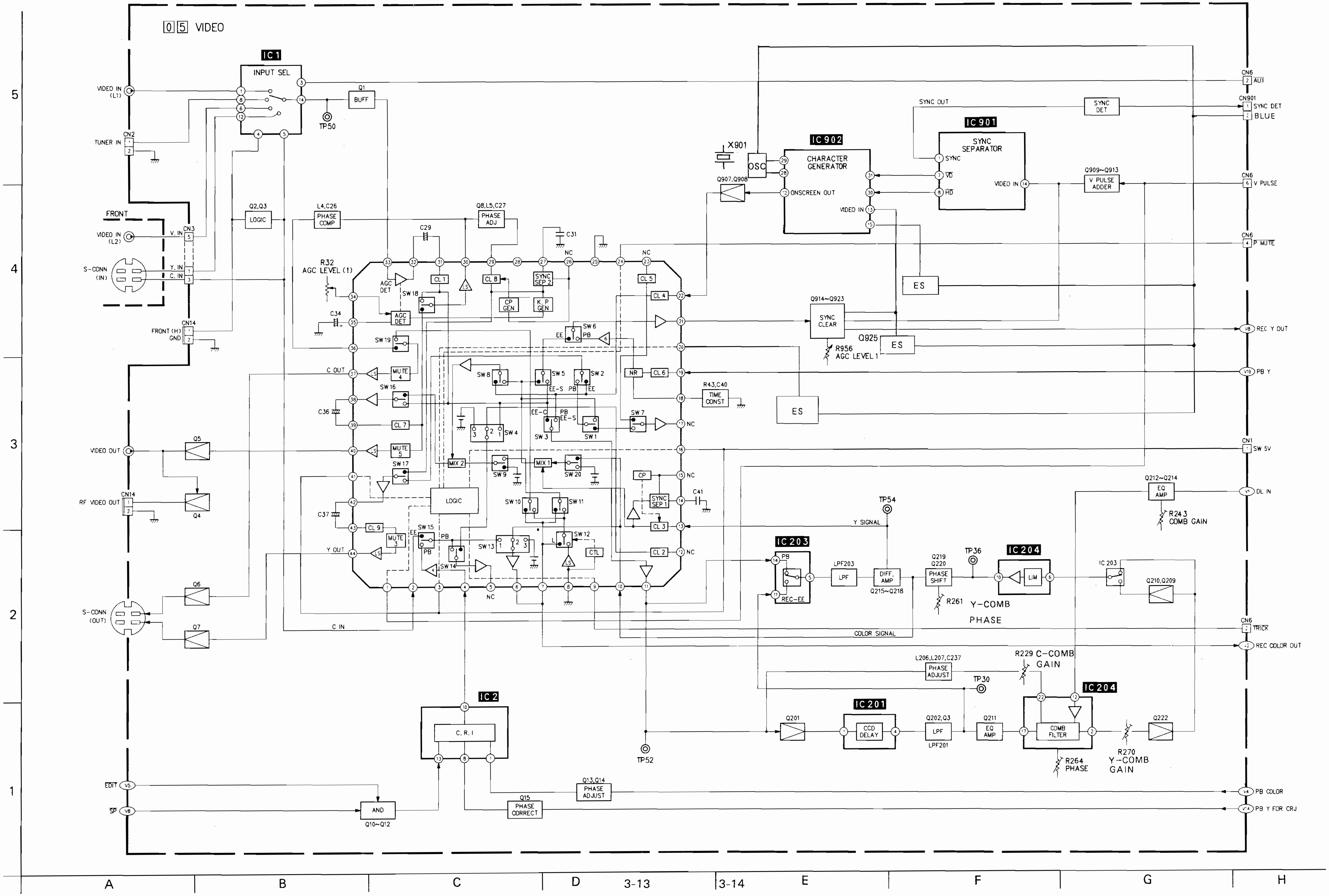
04 SERVO (A/S/M)
IC401
SWD 5V
Vcc
CTL PULSE
C FG C/D
MEM CLOCK
SERIAL DATA
D403
D402
CTL C/D
COUNT DOWN
C FG C/D
SERIAL CLOCK
SERIAL DATA
SERIAL DECODER
NTSC MODE
FUNCTION MODE
SYNC SEP
SPCL PB
V P OUT
YNR PULSE
DRUM FF
AUDIO FF
REF 30HZ
3FSC
DUTY I/O
REC/PB CTL GEN.INDEX DET
From/To 04 MECHACON (A/S/M)
DRUM FF
AUDIO FF (AUDIO)
INDEX
CAP FG
R405,C408
LPF
R404,C407
From 05 VIDEO
CN403
Fsc
DRUM FF
COMP SYNC
CN405
V PULSE
Q401 R402 R403
DRUM START
CTL GAIN & FILTER
C403 C404
C402
SW D
AMP
SW A
REC:ON
Vcc/2
SW C
PB
REC
SW B
RECORDING TAPE
CTL HEAD
12 A/CTL HEAD
CN2
CN401
GND
DRUM START
SPX 11
DRUM FF Z V PULSE GEN.
C423
DRUM PG/FG
DRUM SEL B
SWD 5V
DIF AMP
DRUM GAIN
R424,R426 C420,C421
ACTIVE FILTER
D411
R422 R423
D406
DRUM F-V CONV
SW K
SW I
SPCL PB:ON
DRUM PHASE DET
R420
NONLINEAR & PHASE LOOP FILTER
R416 C418
R421 C419
DRUM REF
SW J
CAP REF
CAP PD FIX:ON
SW H
M:LOOP ON, L:CAP/DRUM PD FIX
CAP PHASE DET
R414
R415,C416,C417
PHASE LOOP FILTER
V. FM
CAP F-V CONV
SW G
SW F
SW E
CAP GAIN SW
R411 R412 R413
R407
R409 R410
ACTIVE FILTER
C414 C415
SP
R427,
SW POINT
PB SW P
SPX 11
V PULSE CTL
From/To 04 MECHACON (A/S/M)
CN402
DRUM PG/FG
DRUM DRIVE
From/To 58 DRUM MOTOR CN1
IC442
IC441
IC442
IC441
CTL CLOCK
DRUM DRIVE
To 04 MECHACON (A/S/M)
HPF
R451,C452,C453 L451
IC451
AMP
S/H
VCA
TIM
OUT
V/I
Vcc
GND
A FM
V FM
SWD 5V
V FF
D412
D404
D405
PAUSE
SERVO
CAP CTL V
CAP CTL V
From/To 04 MECHACON (A/S/M)
5
4
3
2
1
A
B
C
D
E
F
G
H

3.6 VIDEO (1) BLOCK DIAGRAM

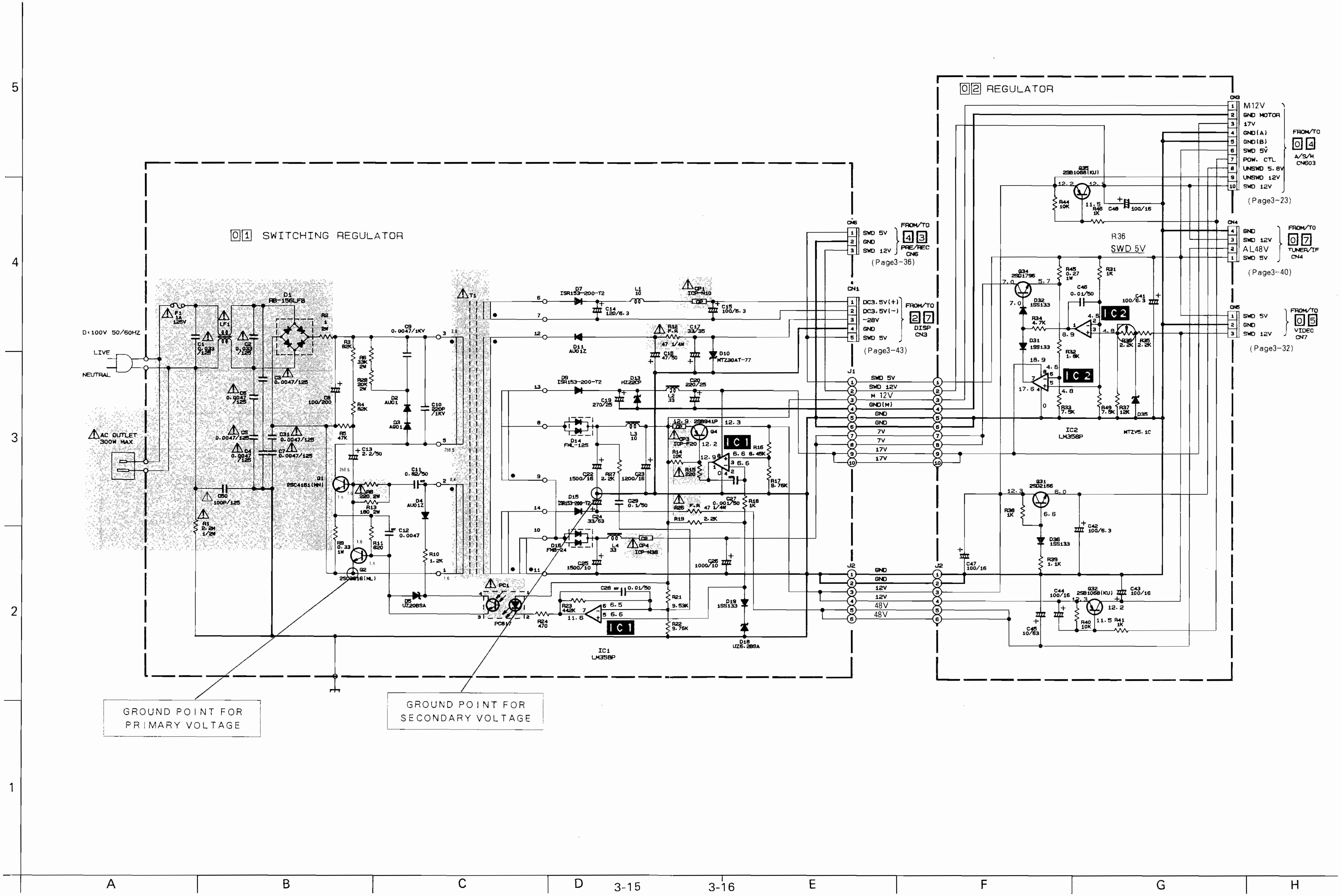


05 VIDEO (1)
CNR IN V20
CNR OUT V19
Q405
Q401,Q402
PHASE SHIFT
BPF401
BPF
Q403
R402
NCR, N PHASE
IC401
CCD DELAX
DRIVE
X3 PLL
fsc
TP502
LPF401
Q406~Q408
LPF AMP
CCD DELAY
R416
N.C.BALANCE
Q409
BUF
R428
SUB EMPH LEVEL
S-VHS
LPF402
LPF
CN602
REC COLOR
GND
PB COLOR
LPF601
LPF & AMP
Q601
Q602
R621
C COMB PHASE
DL601
DL
TP601
C629
BURST DEEMPHA
REC
PB
BPF 601
BPF
MIXER
ACC AMP
CONV BAL
Q611~Q613
L605,C635
L606,C633
Y/C TIMING
LPF602
LPF
4 PHASE SHIFT
MAIN CONV
SPCL PB CTL
BURST EMP COLOR KILL
T601
TANK
8.4MHz VCO
DISCRI
PULSE GEN
VCO
PB C KILLER
IC601
X601
S-VHS NONLINER EMPHASIS/DE EMPHASIS
VHS S-VHS W/D CLIP & DEV FREQ MOD
MAIN EMP
CLAMP
DUBLE LIMIT
YNR
NON LIN EMPHA
EE
FRQ DEMOD
DETAIL EMPHA
LOGIC
LPF (S)
LPF (N)
APT
SYNC SEP
SUB CLAMP
DEEMPH & MUTE
VHS
IC402
LPF
LPF403
CN10
Fsc
SYNC OUT
AT FM OUT
Q610
AMP
Q607
CN12
REC FM OUT
PB FM
AGC
IC403
EE REC COLOR V2
Fsc V16
PB Y OUT V4
REC Y IN V7
Q902
E SW
CN13
EDIT
RENT
APT CTL
E SW
R454
S-PB LEVEL
R456
N-PB LEVEL
INV
Q413
Q605
BUFF
PB COLOR OUT V4
CNR OUT V19
Q410
INV
TRICK V11
S-VHS V12
SP V6
E-E V3
1
2
3
4
5
A
B
C
D
E
F
G
H

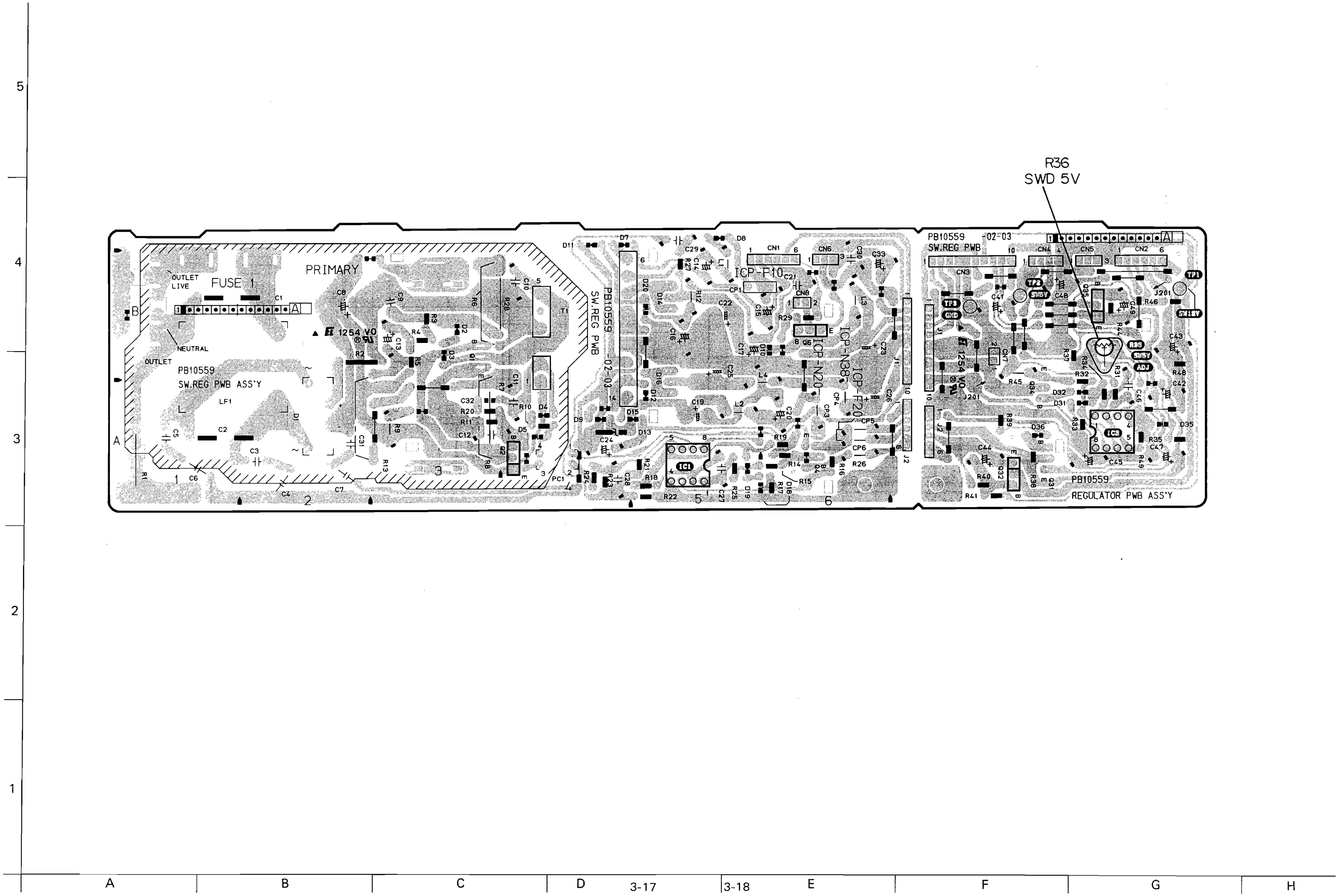
3.7 VIDEO (2) BLOCK DIAGRAM


05 VIDEO
IC1
INPUT SEL
VIDEO IN (L1)
TUNER IN
CN2
Q1
BUFF
TP50
FRONT
VIDEO IN (L2)
S-CONN (IN)
CN3
V. IN
Y. IN
C. IN
CN14
FRONT (H)
GND
Q2,Q3
LOGIC
L4,C26
PHASE COMP
Q8,L5,C27
PHASE ADJ
C29
C31
R32
AGC LEVEL (1)
C34
AGC DET
SW 18
CL 1
CL 8
SYNC SEP 2
CP GEN
K. P GEN
CL 5
CL 4
SW 6
EE
PB
SW 19
MUTE 4
C OUT
SW 16
C36
CL 7
MUTE 5
SW 17
SW 8
SW 5
SW 2
EE-S
NR
CL 6
R43,C40
TIME CONST
SW 4
SW 3
EE-C
SW 1
SW 7
MIX 2
SW 9
MIX 1
SW 20
CP
LOGIC
SW 10
SW 11
SYNC SEP 1
C41
C37
CL 9
MUTE 3
SW 15
SW 13
SW 12
CTL
CL 3
Y OUT
SW 14
CL 2
NC
VIDEO OUT
Q5
RF VIDEO OUT
Q4
S-CONN (OUT)
Q6
Q7
C IN
IC2
C. R. I
EDIT
SP
AND
Q10~Q12
Q15
PHASE CORRECT
Q13,Q14
PHASE ADJUST
TP52
X901
OSC
Q907,Q908
IC902
CHARACTER GENERATOR
ONSCREEN OUT
VIDEO IN
IC901
SYNC SEPARATOR
SYNC
VD
HD
SYNC OUT
SYNC DET
Q909~Q913
V PULSE ADDER
CN6
AUX
CN901
SYNC DET
BLUE
V PULSE
P MUTE
ES
Q914~Q923
SYNC CLEAR
Q925
R956
AGC LEVEL 1
REC Y OUT
PB Y
CN1
SW 5V
Q212~Q214
EQ AMP
R243
COMB GAIN
DL IN
TP54
Y SIGNAL
IC203
REC-EE
LPF203
LPF
DIFF. AMP
Q215~Q218
Q219
Q220
PHASE SHIFT
R261
TP36
IC204
LIM
Y-COMB PHASE
Q210,Q209
TRICK
COLOR SIGNAL
REC COLOR OUT
L206,L207,C237
PHASE ADJUST
R229 C-COMB GAIN
TP30
Q201
IC201
CCD DELAY
Q202,Q3
LPF201
Q211
COMB FILTER
R264 PHASE
R270 Y-COMB GAIN
Q222
PB COLOR
PB Y FOR CRJ
A
B
C
D
E
F
G
H
1
2
3
4
5

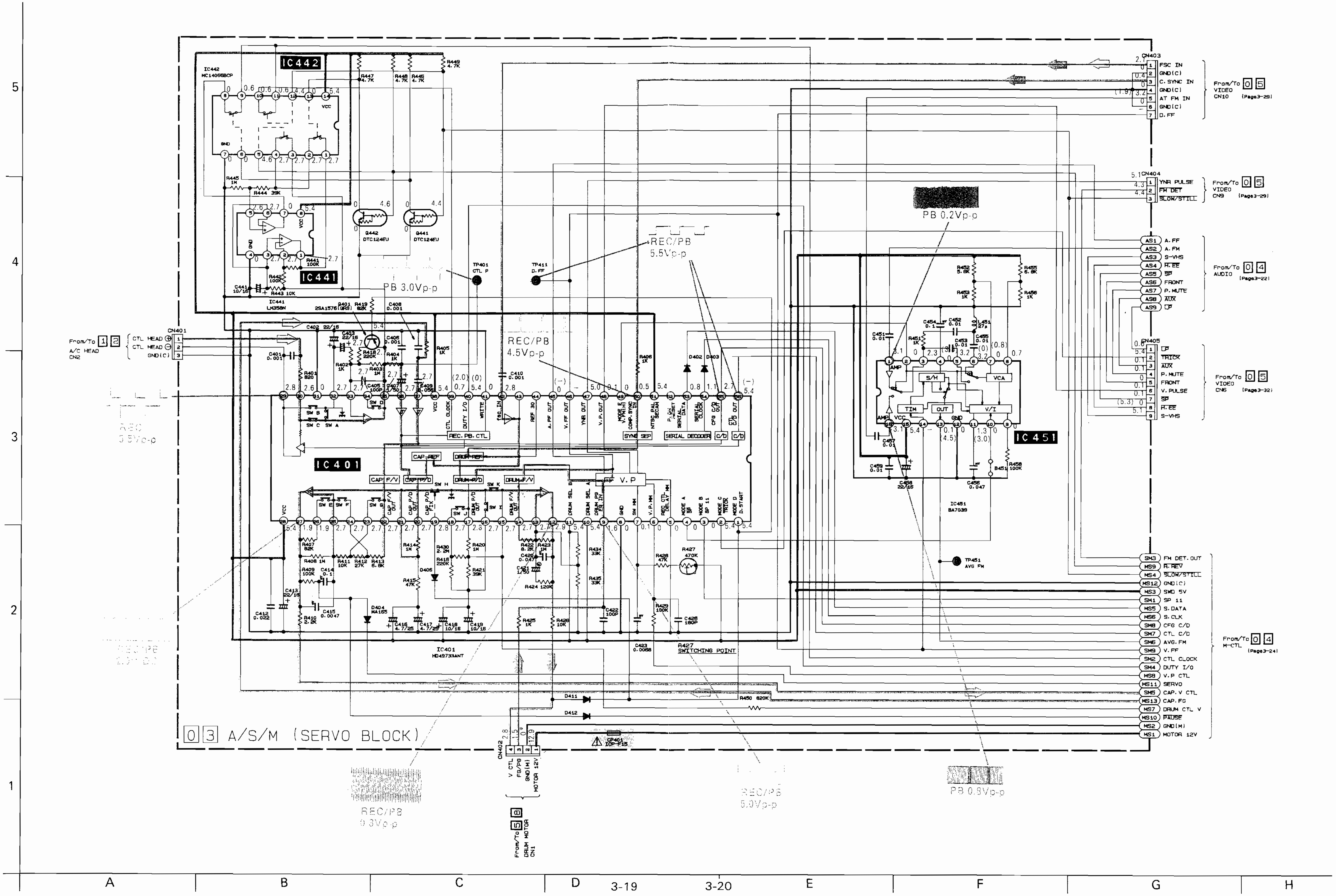
3.8 SWITCHING REGULATOR SCHEMATIC DIAGRAM


01 SWITCHING REGULATOR
02 REGULATOR
D:100V 50/60HZ
LIVE
NEUTRAL
AC OUTLET 300W MAX
F1 1A 125V
LF1
C1 0.033 /125
C2 0.033 /125
D1 RB-156LFB
R2 1 2W
C3 0.0047/125
C5 0.0047/125
C6 0.0047/125
C4 0.0047/125
C31 0.0047/125
C7 0.0047/125
C50 100P/125
R1 2.2M 1/2W
C8 100/200
R3 82K
R6 33K 2W
R28 20K 2W
R4 82K
R5 47K
C9 0.0047/1KV
D2 AU01
D3 AG01
C10 220P /1KV
C13 2.2/50
Q1 2SC4161(MN)
R8 220 2W
R13 180 2W
C11 0.82/50
D4 AU01Z
C12 0.0047
R9 0.33 1W
R11 820
R10 1.2K
Q2 2SC2016(ML)
D5 UZ20BSA
T1
PC1
PC817
R24 470
R23 442K
IC1 LM358P
D7 ISR153-200-T2
L1 10
CP1 ICP-N10
C14 120/6.3
C15 100/6.3
D11 AU01Z
R12 F.R 47 1/4W
C17 33/35
C18 47/50
D10 MTZ30AT-77
D9 ISR153-200-T2
D13 HZ22CP
C19 270/25
L2 33
C20 220/25
D14 FML-12S
L3 10
C22 1500/16
R27 2.2K
C23 1200/16
D15 ISR153-200-T2
C24 33/63
C29 0.1/50
D16 FMB-24
L4 33
CP4 ICP-N38
C25 1500/10
C26 1000/10
Q4 2SB941P
CP3 ICP-F20
R14 10K
R15 220
R16 6.45K
R17 9.76K
R26 F.R 47 1/4W
C27 0.001/50
R18 1K
R19 2.2K
C28 0.01/50
R21 9.53K
R22 9.76K
D19 1SS133
D18 UZ6.2BSA
CN6
SWD 5V
GND
SWD 12V
FROM/TO 43 PRE/REC CN6
(Page3-36)
CN1
DC3.5V(+)
DC3.5V(-)
-28V
GND
SWD 5V
FROM/TO 27 DISP CN3
(Page3-43)
J1
SWD 5V
SWD 12V
M 12V
GND(M)
GND
GND
7V
7V
17V
17V
J2
GND
GND
12V
12V
48V
48V
CN3
M12V
GND MOTOR
17V
GND(A)
GND(B)
SWD 5V
POW. CTL
UNSWD 5.6V
UNSWD 12V
SWD 12V
FROM/TO 04 A/S/H CN603
(Page3-23)
CN4
GND
SWD 12V
AL48V
SWD 5V
FROM/TO 07 TUNER/IF CN4
(Page3-40)
CN5
SWD 5V
GND
SWD 12V
FROM/TO 05 VIDEO CN7
(Page3-32)
Q35 2SB1068(KU)
R44 10K
R46 1K
C48 100/16
R36
SWD 5V
Q34 2SD1796
R45 0.27 1W
R31 1K
C46 0.01/50
C41 100/6.3
D32 1SS133
R34 4.7K
IC2
R38 2.2K
R35 2.2K
D31 1SS133
R32 1.8K
R33 7.5K
R49 7.5K
R37 12K
D35 MTZV5.1C
IC2 LM358P
Q31 2SD2166
R30 1K
C42 100/6.3
D36 1SS133
R39 1.1K
C47 100/16
C44 100/16
Q32 2SB1068(KU)
C43 100/16
C45 10/63
R40 10K
R41 1K
GROUND POINT FOR PRIMARY VOLTAGE
GROUND POINT FOR SECONDARY VOLTAGE
1
2
3
4
5
A
B
C
D
E
F
G
H

3.9 SWITCHING REGULATOR CIRCUIT BOARD

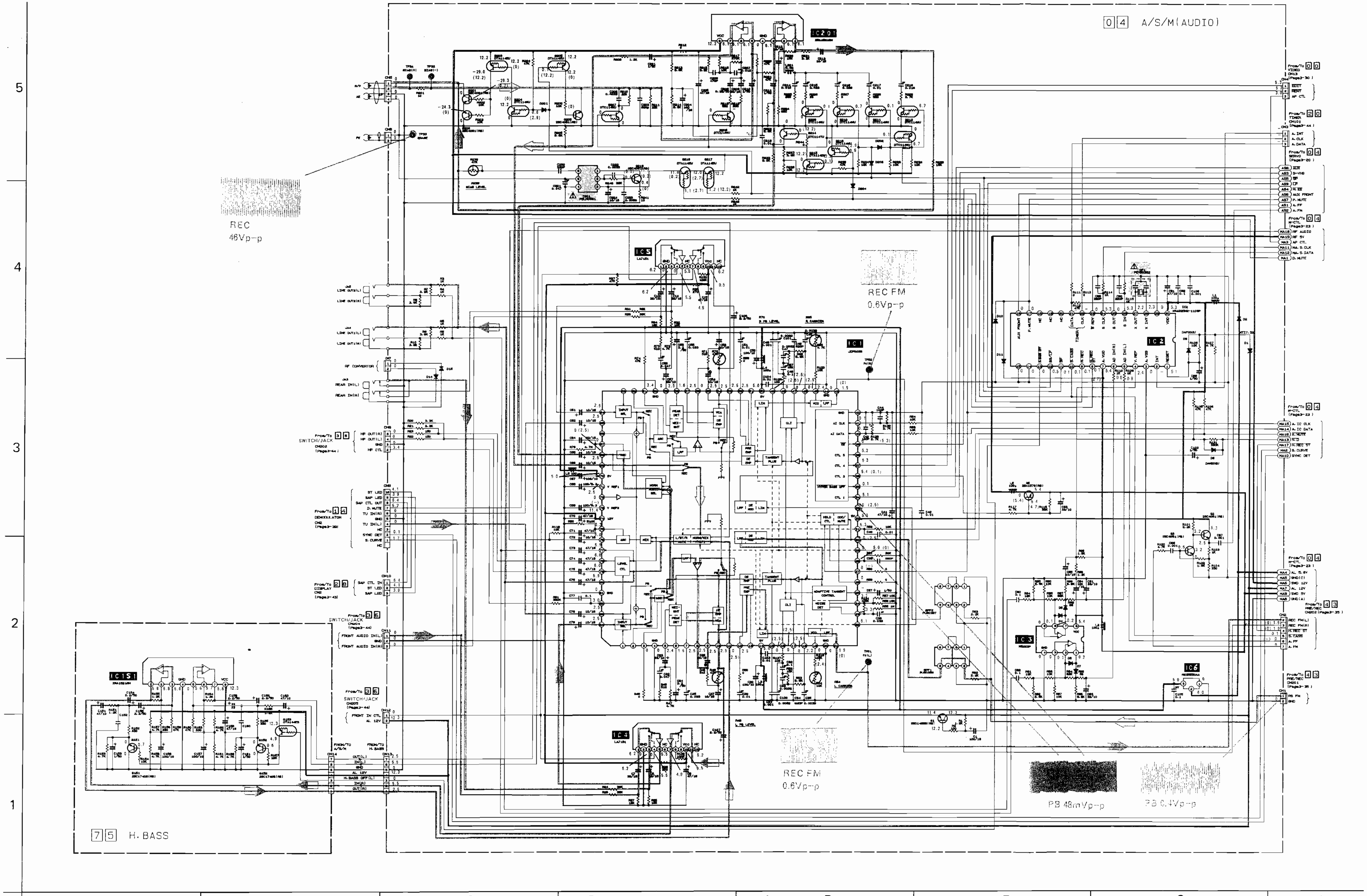

R36
SWD 5V
PRIMARY
FUSE 1
OUTLET LIVE
NEUTRAL
OUTLET
PB10559
SW.REG PWB ASS'Y
LF1
T1
1254 V0
PB10559 -02-03
SW.REG PWB
ICP-F10
ICP-N20
ICP-N38
ICP-F20
CN1
CN6
CN8
CN3
CN4
CN5
CN2
CN7
IC1
IC2
J1
J2
J201
TP1
TP2
TP3
GND
ADJ
PB10559
REGULATOR PWB ASS'Y
1
2
3
4
5
A
B
C
D
E
F
G
H

3.10 SERVO SCHEMATIC DIAGRAM

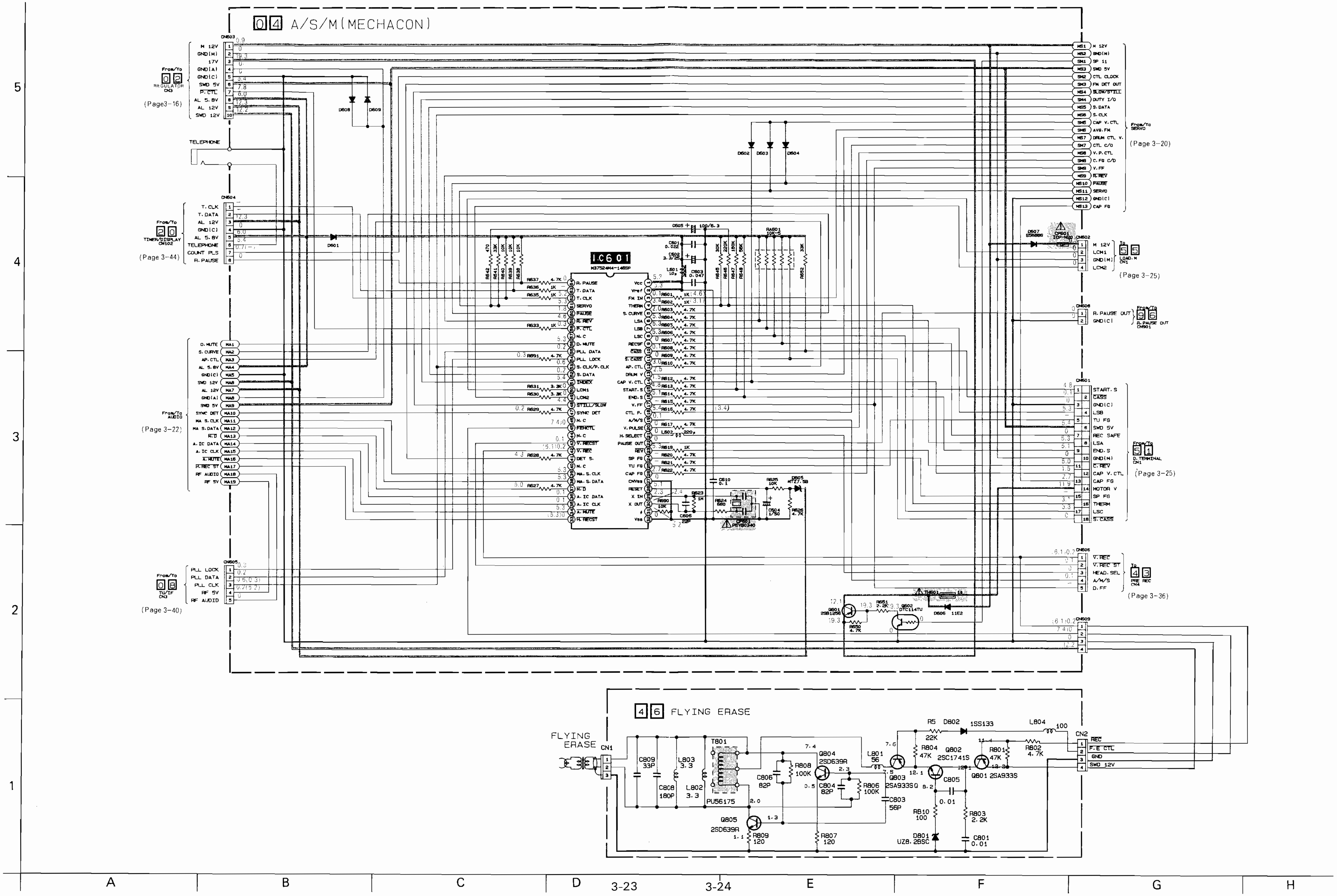


IC442
IC442 MC14066BCP
IC441
IC441 LM358N
IC401
IC401 HD49733ANT
IC451
IC451 BA7039
Q442 DTC124EU
Q441 DTC124EU
Q401 2SA1576(QRS)
TP401 CTL P
TP411 D.FF
TP451 AVG FM
CN401
CTL HEAD ⊕
CTL HEAD ⊖
GND(C)
From/To 1 2 A/C HEAD CN2
CN402
V CTL
FG/PG
GND(M)
MOTOR 12V
From/To 5 8 DRUM MOTOR CN1
CN403
FSC IN
GND(C)
C.SYNC IN
GND(C)
AT FM IN
GND(C)
D.FF
From/To 0 5 VIDEO CN10 (Page3-29)
CN404
YNR PULSE
FM DET
SLOW/STILL
From/To 0 5 VIDEO CN9 (Page3-29)
AS1 A.FF
AS2 A.FM
AS3 S-VHS
AS4 H.EE
AS5 SP
AS6 FRONT
AS7 P.MUTE
AS8 AUX
AS9 LP
From/To 0 4 AUDIO (Page3-22)
CN405
LP
TRICK
AUX
P.MUTE
FRONT
V.PULSE
SP
H.EE
S-VHS
From/To 0 5 VIDEO CN6 (Page3-32)
SM3 FM DET.OUT
MS9 H.REV
MS4 SLOW/STILL
MS12 GND(C)
MS3 SWD 5V
SM1 SP 11
MS5 S.DATA
MS6 S.CLK
SM8 CFG C/D
SM7 CTL C/D
SM6 AVG.FM
SM9 V.FF
SM2 CTL CLOCK
SM4 DUTY I/O
MS8 V.P CTL
MS11 SERVO
SM5 CAP.V CTL
MS13 CAP.FG
MS7 DRUM CTL V
MS10 PAUSE
MS2 GND(M)
MS1 MOTOR 12V
From/To 0 4 M-CTL (Page3-24)
REC.PB.CTL
CAP.REF
DRUM REF
CAP F/V
CAP P/D
DRUM P/D
DRUM F/V
V.P
SYNC SEP
SERIAL DECODER
C/D
S/H
VCA
TIM
OUT
V/I
AMP
PB 0.2Vp-p
REC/PB 5.5Vp-p
PB 3.0Vp-p
REC/PB 4.5Vp-p
REC 5.5Vp-p
REC/PB 0.3Vp-p
REC/PB 5.0Vp-p
PB 0.9Vp-p
R427 SWITCHING POINT
D411
D412
R450 820K
CP401 ICP-F15
0 3 A/S/M (SERVO BLOCK)
A
B
C
D
E
F
G
H
1
2
3
4
5

3.11 AUDIO AND HYPER BASS SCHEMATIC DIAGRAMS

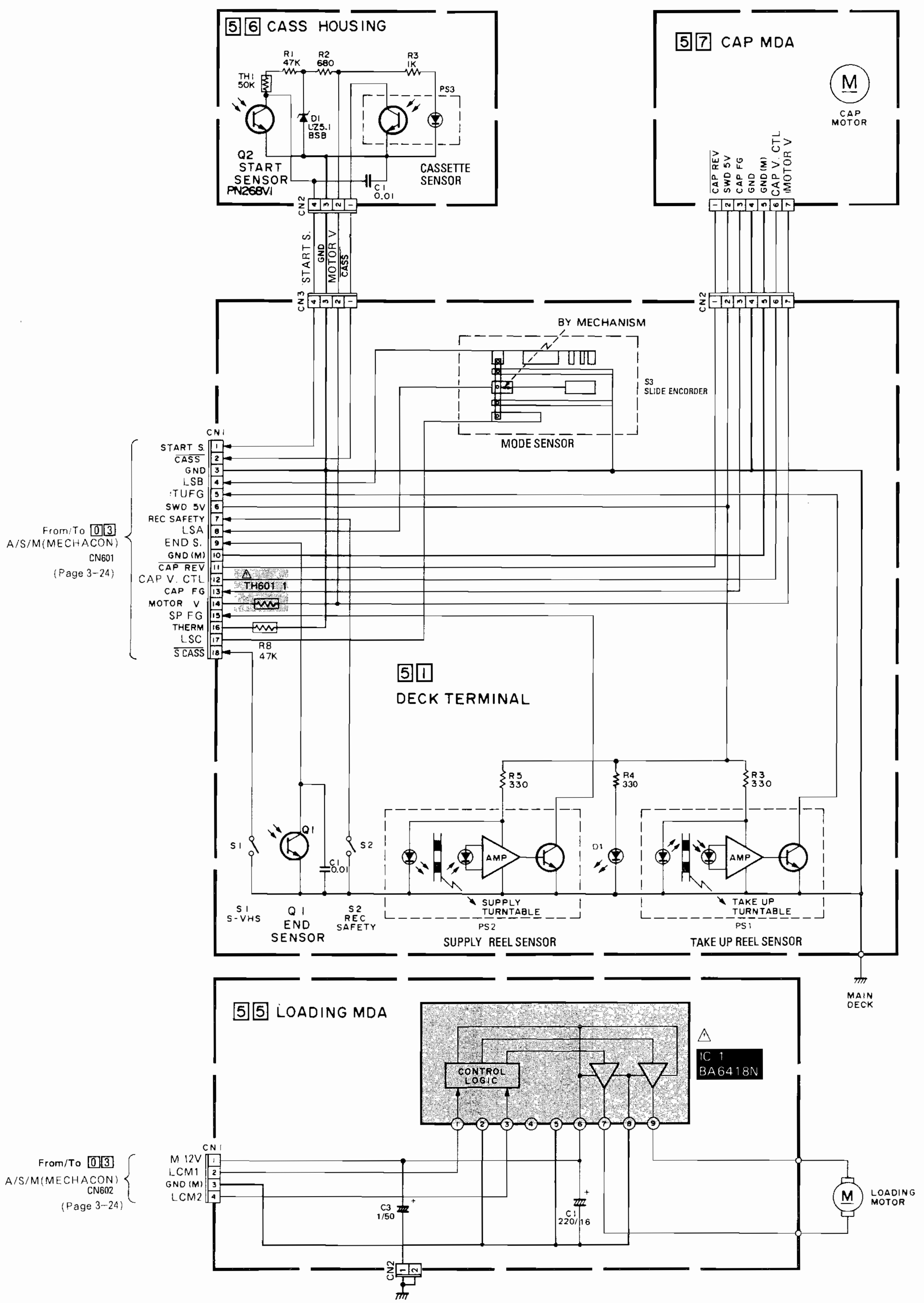

0 4 A/S/M(AUDIO)
IC201
REC
46Vp-p
IC5
REC FM
0.6Vp-p
IC1
IC2
IC3
IC4
IC6
IC151
REC FM
0.6Vp-p
PB 48mVp-p
PB 0.4Vp-p
7 5 H. BASS
1
2
3
4
5
A
B
C
D
E
F
G
H

3.12 MECHANISM CONTROL AND FLYING ERASE SCHEMATIC DIAGRAMS



04 A/S/M(MECHACON)
CN603
M 12V
GND(M)
17V
GND(A)
GND(C)
SWD 5V
P.CTL
AL 5.8V
AL 12V
SWD 12V
From/To
02
REGULATOR CN3
(Page3-16)
D608
D609
TELEPHONE
CN604
T.CLK
T.DATA
AL 12V
GND(C)
AL 5.8V
TELEPHONE
COUNT PLS
R.PAUSE
From/To
20
TIMER/DISPLAY CN102
(Page 3-44)
D601
D602
D603
D604
IC601
M37524M4-146SP
R.PAUSE
T.DATA
T.CLK
SERVO
PAUSE
R.REV
P.CTL
N.C
D.MUTE
PLL DATA
PLL LOCK
S.CLK/P.CLK
S.DATA
INDEX
LCM1
LCM2
STILL/SLOW
SYNC DET
N.C
FE.CTL
V.RECST
V.REC
DET S.
N.C
MA.S.CLK
MA.S.DATA
N.D
A.IC DATA
A.IC CLK
A.MUTE
H.RECST
Vcc
Vref
FM IN
THERM
S.CURVE
LSA
LSB
LSC
RECSF
CASS
S.CASS
AP.CTL
DRUM V
CAP V.CTL
START.S
END.S
V.FF
CTL P.
A/M/S
V.PULSE
H.SELECT
PAUSE OUT
REV
SP FG
TU FG
CAP FG
CNVss
RESET
X IN
X OUT
Vss
R637 4.7K
R636 1K
R635 1K
R633 1K
R691 4.7K
R631 3.3K
R630 3.3K
R629 4.7K
R628 4.7K
R627 4.7K
R642 R641 R640 R639 R638
470 33K 10K 10K 10K
D505 100/6.3
C601 0.022
C602 3.3/25
L601 10μ
C603 0.047
RA601 10K-5
R645 R646 R647 R648
30K 220K 180K 56K
R652 33K
R601 1K
R602 1K
R603 4.7K
R604 4.7K
R605 4.7K
R606 4.7K
R607 4.7K
R608 4.7K
R609 4.7K
R610 4.7K
R612 4.7K
R613 4.7K
R614 4.7K
R615 4.7K
R616 4.7K
R617 4.7K
L602 220μ
R619 1K
R620 4.7K
R621 4.7K
R622 4.7K
C610 0.1
R625 10K
D605 MTZ7.5B
R623 1K
R624 680
R690 10K
C605 22P
CF601 PEVB0340
C604 1/50
R626 4.7K
D.MUTE MA1
S.CURVE MA2
AP.CTL MA3
AL 5.8V MA4
GND(C) MA5
SWD 12V MA6
AL 12V MA7
GND(A) MA8
SWD 5V MA9
SYNC DET MA10
MA S.CLK MA11
MA S.DATA MA12
N.D MA13
A.IC DATA MA14
A.IC CLK MA15
A.MUTE MA16
H.REC ST MA17
RF AUDIO MA18
RF 5V MA19
From/To
AUDIO
(Page 3-22)
CN605
PLL LOCK
PLL DATA
PLL CLK
RF 5V
RF AUDIO
From/To
08
TU/IF CN3
(Page 3-40)
MS1 M 12V
MS2 GND(M)
SM1 SP 11
MS3 SWD 5V
SM2 CTL CLOCK
SM3 FM DET OUT
MS4 SLOW/STILL
SM4 DUTY I/O
MS5 S.DATA
MS6 S.CLK
SM5 CAP V.CTL
SM6 AVG.FM
MS7 DRUM CTL V.
SM7 CTL C/O
MS8 V.P.CTL
SM8 C.FG C/D
MS9 V.FF
MS9 R.REV
MS10 PAUSE
MS11 SERVO
MS12 GND(C)
MS13 CAP FG
From/To
SERVO
(Page 3-20)
D507 SS88G
CP601 ICP-N20
CN602
M 12V
LCM1
GND(M)
LCM2
To
55
LOAD.M CN1
(Page 3-25)
CN608
R.PAUSE OUT
GND(C)
From/To
96
R.PAUSE OUT CN901
CN601
START.S
CASS
GND(C)
LSB
TU FG
SWD 5V
REC SAFE
LSA
END.S
GND(M)
C.REV
CAP V.CTL
CAP FG
MOTOR V
SP FG
THERM
LSC
S.CASS
From/To
51
D.TERMINAL CN1
(Page 3-25)
CN606
V.REC
V.REC ST
HEAD.SEL
A/M/S
D.FF
To
43
PRE REC CN4
(Page 3-36)
TH601
D606 11E2
Q601 2SB1258
R651 2.2K
Q602 DTC114TU
R650 4.7K
CN609
46 FLYING ERASE
FLYING ERASE
CN1
C809 33P
C808 180P
L803 3.3
L802 3.3
T801
PU56175
Q805 2SD639R
R809 120
C806 82P
R808 100K
Q804 2SD639R
C804 82P
R806 100K
C803 56P
R807 120
L801 56
Q803 2SA933SQ
R810 100
D801 UZ8.2BSC
R5 22K
D802 1SS133
R804 47K
Q802 2SC1741S
C805 0.01
R803 2.2K
C801 0.01
R801 47K
Q801 2SA933S
R802 4.7K
L804 100
CN2
REC
F.E CTL
GND
SWD 12V
5
4
3
2
1
A
B
C
D
E
F
G
H

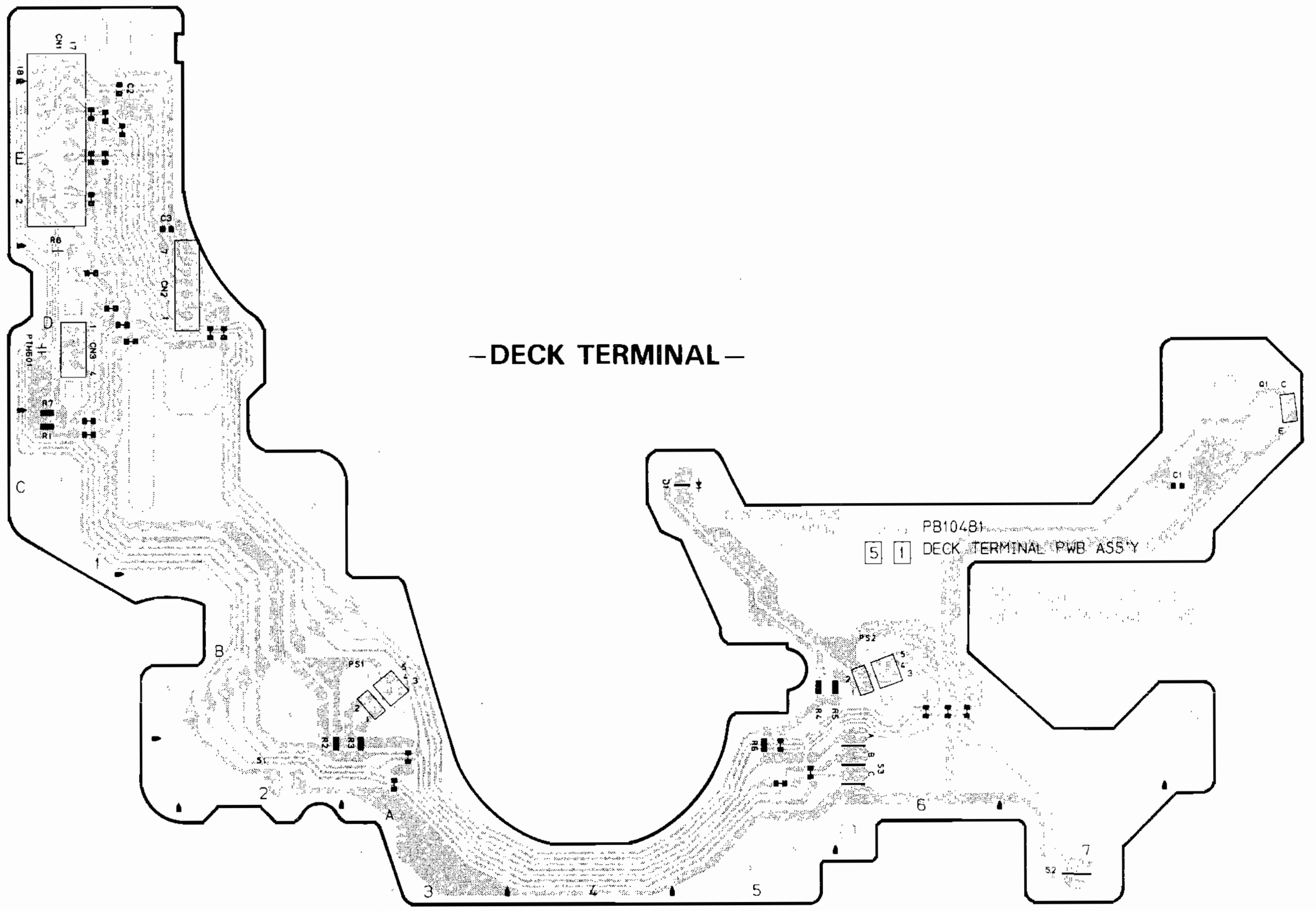
3.13 DECK TERMINAL, LOADING MDA CAPSTAN MDA, AND CASS HOUSING SCHEMATIC DIAGRAMS



5 6 CASS HOUSING
TH1 50K
R1 47K
R2 680
R3 1K
PS3
D1 UZ5.1 BSB
Q2 START SENSOR PN268VI
CASSETTE SENSOR
C1 0.01
CN2
START S.
GND
MOTOR V
CASS
5 7 CAP MDA
M
CAP MOTOR
CAP REV
SWD 5V
CAP FG
GND (M)
CAP V. CTL
MOTOR V
CN3
CN2
BY MECHANISM
S3 SLIDE ENCORDER
MODE SENSOR
CN1
START S.
CASS
GND
LSB
TUFG
SWD 5V
REC SAFETY
LSA
END S.
GND (M)
CAP REV
CAP V. CTL
CAP FG
MOTOR V
SP FG
THERM
LSC
S CASS
From/To 0 3 A/S/M(MECHACON) CN601 (Page 3-24)
TH601 1
R8 47K
5 1 DECK TERMINAL
R5 330
R4 330
R3 330
S1
Q1
C1 0.01
S2
D1
AMP
AMP
SUPPLY TURNTABLE
PS2
TAKE UP TURNTABLE
PS1
S1 S-VHS
Q1 END SENSOR
S2 REC SAFETY
SUPPLY REEL SENSOR
TAKE UP REEL SENSOR
MAIN DECK
5 5 LOADING MDA
CONTROL LOGIC
IC 1 BA6418N
CN1
M 12V
LCM1
GND (M)
LCM2
From/To 0 3 A/S/M(MECHACON) CN602 (Page 3-24)
C3 1/50
C1 220/16
M
LOADING MOTOR
CN2

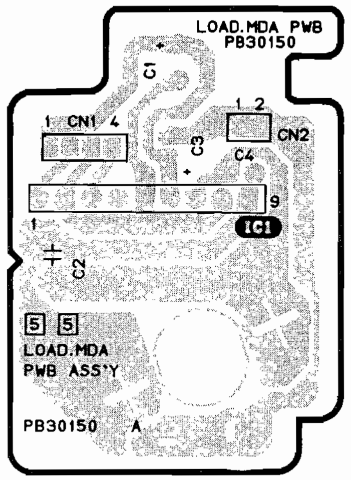
3.14 DECK TERMINAL, LOADING MDA, CASS HOUSING AND A/CTL HEAD CIRCUIT BOARDS

-DECK TERMINAL-



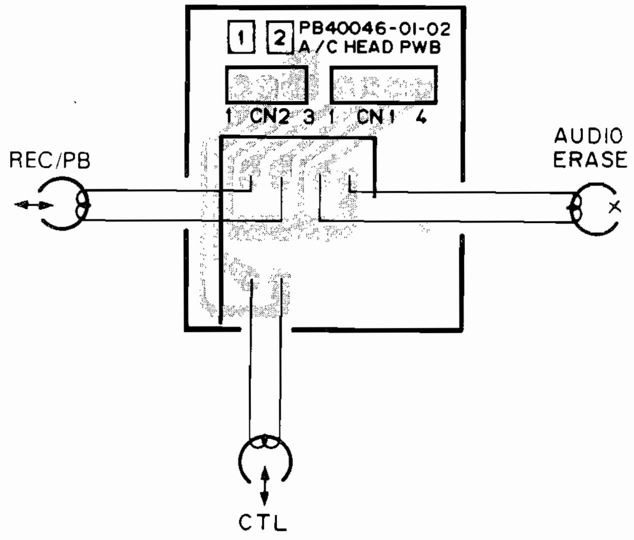
PB10481
5 1 DECK TERMINAL PWB ASS'Y
PS1
PS2
S1
S2
R7
R8
TH601

- LOADING MDA -



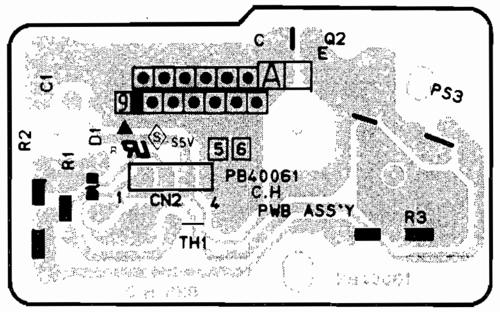
LOAD.MDA PWB PB30150
C1
CN1
CN2
C3
C4
IC1
C2
5 5 LOAD.MDA PWB ASS'Y
PB30150 A

-A/CTL HEAD-



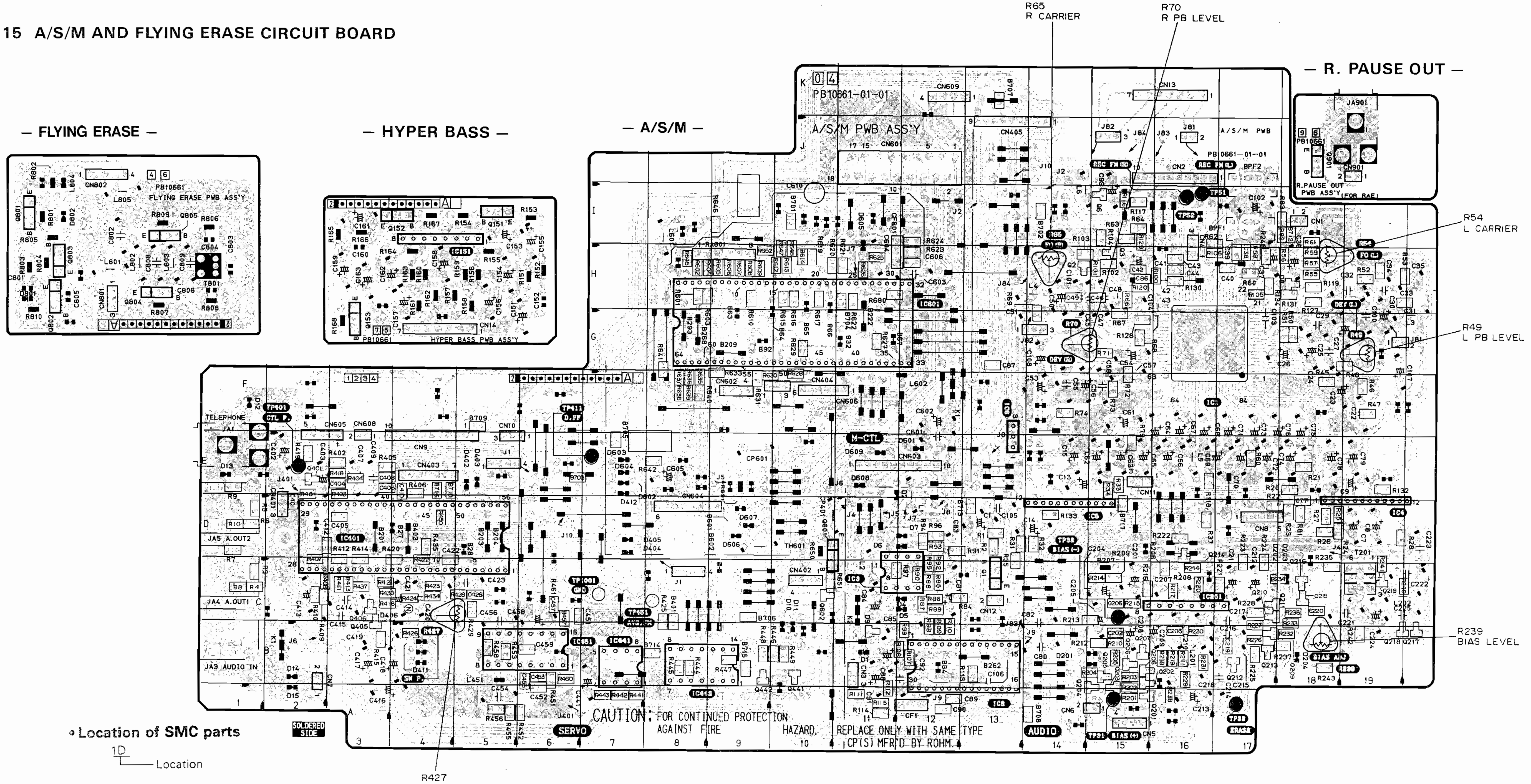
1 2 PB40046-01-02 A/C HEAD PWB
CN2
CN1
REC/PB
AUDIO ERASE
CTL

- CASSETTE HOUSING -



C
Q2
E
A
9
C1
R2
D1
R1
S5V
5 6
PB40061 C.H PWB ASS'Y
CN2
TH1
PS3
R3

3.15 A/S/M AND FLYING ERASE CIRCUIT BOARD


R65
R CARRIER
R70
R PB LEVEL
— R. PAUSE OUT —
— FLYING ERASE —
— HYPER BASS —
— A/S/M —
PB10661-01-01
A/S/M PWB ASS'Y
FLYING ERASE PWB ASS'Y
HYPER BASS PWB ASS'Y
R.PAUSE OUT PWB ASS'Y (FOR RAE)
R54
L CARRIER
R49
L PB LEVEL
R239
BIAS LEVEL
TELEPHONE
JA5 A.OUT2
JA4 A.OUT1
JA3 AUDIO IN
M-CTL
BIAS ADJ
ERASE
SERVO
AUDIO
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE CP(S) MFR'D BY ROHM.
SOLDERED SIDE
R427
SWITCHING POINT

• Location of SMC parts

1D — Location

AUDIO SECTION

REF. No.	LOCATION
TRANSISTOR	
Q2	14H
Q3	15H
Q6	15I
Q201	15A
Q202	15B
Q203	15B
Q204	15B
Q205	15B
Q206	15B
Q207	15B
Q208	15B
Q209	17B
Q210	17C
Q211	17C
Q212	17B
Q213	17B
Q214	16D
Q215	18C
Q216	18C
Q217	20B
Q218	19B
Q219	19C
DIODE	
D8	18H
D9	11B
RESISTOR	
R1	13D
R2	13D
R3	1C
R4	1C
R5	1D
R6	1D
R7	1D
R8	1C
R9	1E
R10	1D
R20	18E
R21	18E
R22	17D
R23	18D
R24	18D
R25	18D
R26	18D
R27	18D
R28	19D
R31	13D
R32	14D
R33	15E
R34	15E
R35	13D
R37	16D
R45	18F
R46	19F
R47	19F
R48	19G
R50	18G
R52	19H
R53	19H
R55	18H
R56	18H
R57	18H
R58	17I
R60	17H
R61	18I
R62	16H
R63	15I
R64	15I
R66	15H
R67	15G
R69	14H
R71	15G
R72	15F
R73	15F
R74	14D
R79	15E
R80	17E
R81	18D
R82	18I
R83	18I
R84	12C
R85	12C
R86	12C
R87	12C
R88	12C
R89	12C
R90	12C
R91	12D
R92	12D
R93	12D
R94	12D
R95	12D
R96	12D
R97	12C
R98	12C
R99	12B
R100	16H
R101	15H
R102	15H
R103	14H
R104	15I
R105	17H
R106	16H
R107	12B
R108	12B
R109	12C
R110	12C
R111	11A
R112	11A
R113	13B
R114	11A
R115	11A
R116	15I
R117	15I
R118	16D
R119	18H
R120	15H
R127	18H
R128	15G
R129	15I
R130	16H
R131	18H
R132	19E
R133	14D
R134	17H
R201	15A
R202	15B
R203	15B
R204	15B
R205	15B
R206	16C
R209	15C
R210	15B
R211	16B
R212	15B
R213	15C
R214	15C
R215	15C
R216	15C
R217	16C
R218	16B
R219	16B
R220	16C
R221	17C
R222	16D
R223	17D
R224	17D
R225	17B
R226	17B
R227	17C
R228	17C
R229	16B
R230	16B
R231	16B
R232	18B
R233	18C
R234	18C
R235	18D
R236	18C
R237	18B
R238	16A
R240	19C
R241	19D
R242	19B
R243	18B
R244	16D
CAPACITOR	
C31	19H
C34	19H
C39	17I
C40	17H
C42	15H
C43	16H
C44	16H
C46	15H
C49	14H
C77	18E
C86	15H
C87	13G
C89	12A
CAPACITOR	
C90	12A
C202	15B
C203	16B
C206	15C
C219	17B
C220	18C

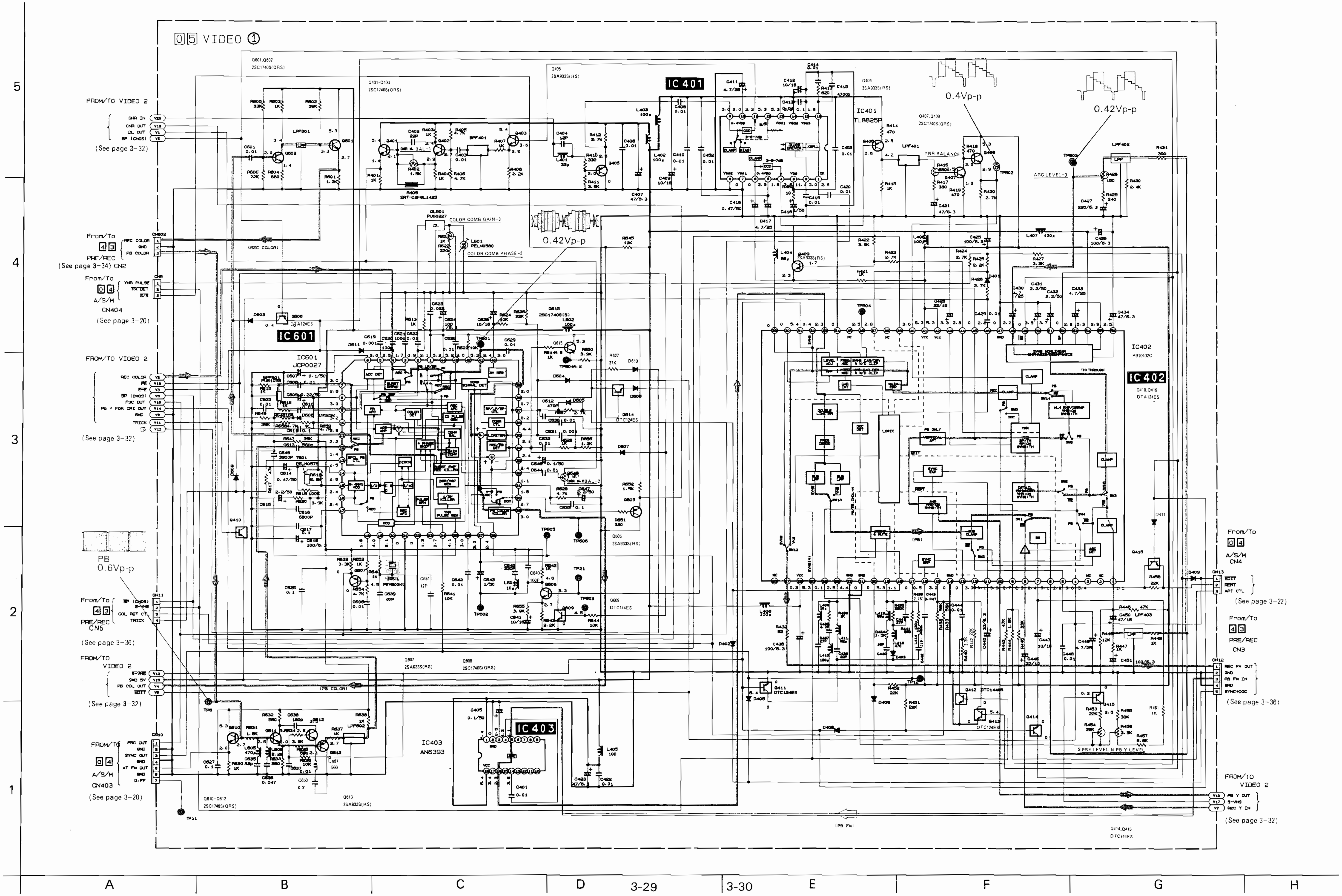
SERVO SECTION

REF. No.	LOCATION
TRANSISTOR	
Q401	2E
Q441	10B
Q442	9B
RESISTOR	
R401	2E
R402	3E
R403	3E
R404	3E
R405	3E
R406	5E
R407	2C
R408	2C
R409	2C
R410	2C
R411	3C
R412	3D
R413	3C
R414	3D
R415	3B
R416	3C
R418	3E
R419	2E
R420	4D
R421	3C
R422	4D
R423	4C
R424	4C
R425	8C
R426	4B
R428	5C
R429	5C
R430	3C
R434	4C
R435	4D
R441	7A
R442	7A
R443	7A
R444	8B
R445	8B
R446	10B
R447	9B
R448	9B
R449	10B
R450	4D
R451	6B
R452	6A
R453	5B
R455	5A
R456	5A
R458	5B
CAPACITOR	
C401	2D
C405	3D
C406	3E
C408	3E
C410	5E
C412	3D
C422	4D
C426	5C
C451	6C
C452	6A
C453	6B
C455	6B
C457	6C
C459	6B

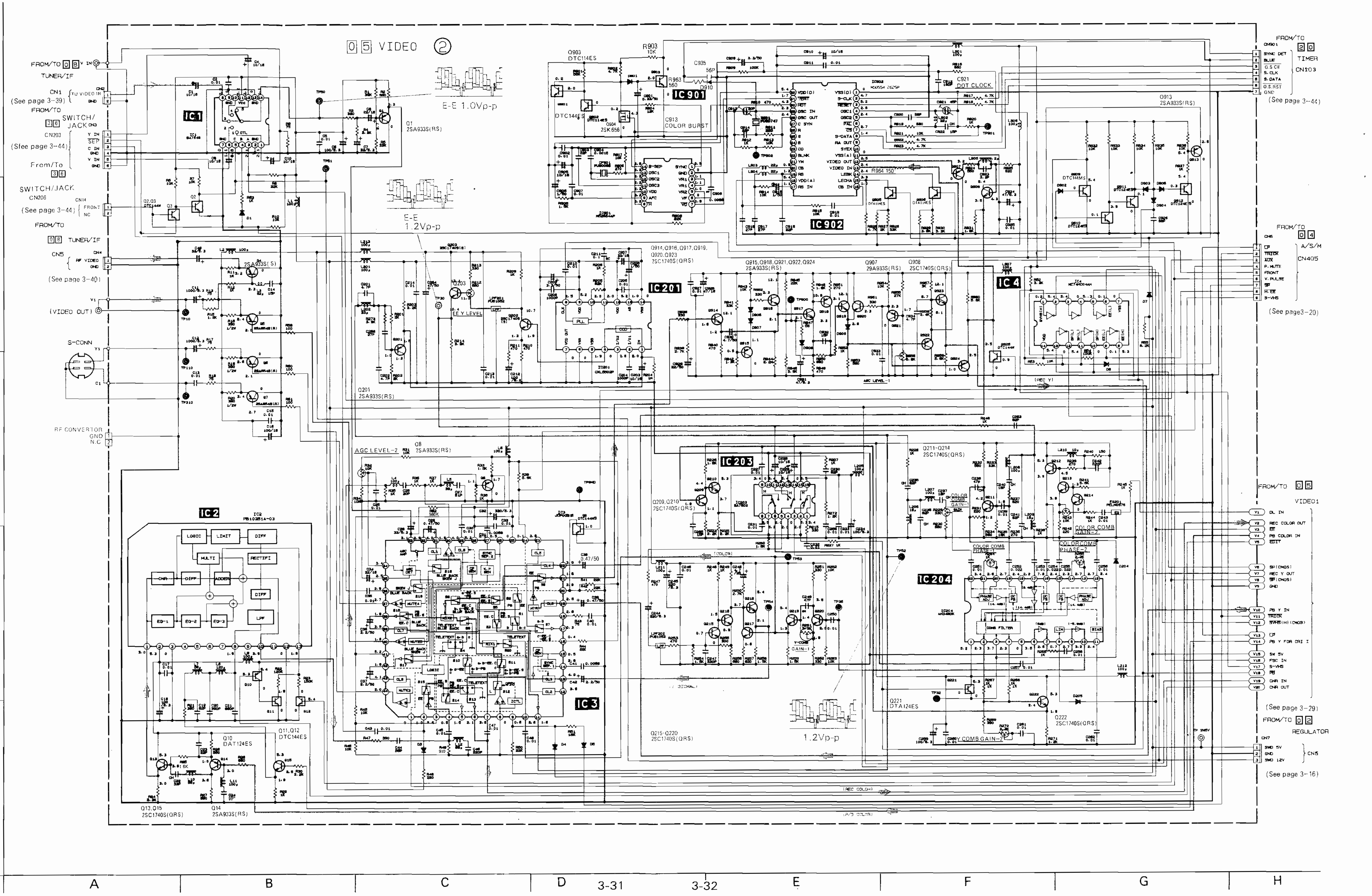
MECHACON SECTION

REF. No.	LOCATION
TRANSISTOR	
Q602	10C
RESISTOR	
R601	8H
R602	8H
R603	8H
R604	8H
R605	9H
R606	9H
R607	9H
R608	9H
R609	9H
R610	9H
R612	10H
R613	10H
R614	10H
R615	10H
R616	10H
R617	10H
R619	10H
R620	10H
R621	11H
R622	11H
R623	12H
R624	12I
R625	11H
R626	11H
R627	11G
R628	10F
R629	10G
R630	9F
R631	9F
R633	9F
R635	8F
R636	8F
R637	8F
R638	8F
R639	8F
R640	8F
R641	8G
R642	8E
R645	8H
R646	9I
R647	10I
R648	10I
R651	10C
R652	9H
R690	11H
CAPACITOR	
C606	12H

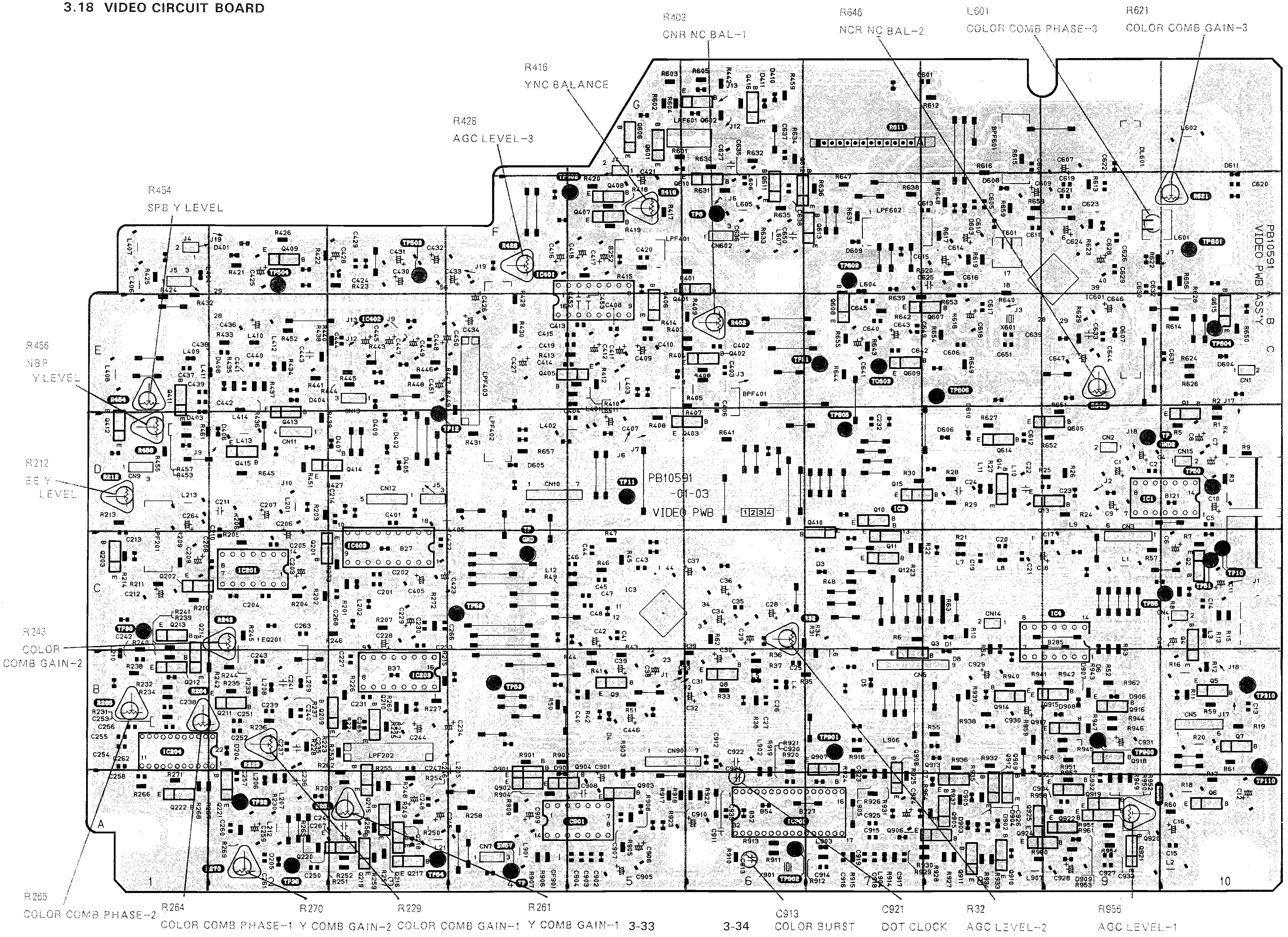
3.16 VIDEO (1) SCHEMATIC DIAGRAM


05 VIDEO ①
IC401
TL8825P
IC402
PB20432C
IC403
AN6393
IC601
JCP0027
0.4Vp-p
0.42Vp-p
0.42Vp-p
PB 0.6Vp-p
FROM/TO VIDEO 2
CNR IN
CNR OUT
DL OUT
BP (CHOS)
(See page 3-32)
From/To 43 PRE/REC
(See page 3-34) CN2
REC COLOR
GND
PB COLOR
From/To 04 A/S/M
CN404
(See page 3-20)
YNR PULSE
FM DET
D75
FROM/TO VIDEO 2
REC COLOR
PB
E-E
BP (CHOS)
FSC OUT
PB Y FOR CRI OUT
GND
TRICK
LP
(See page 3-32)
From/To 43 PRE/REC CN5
(See page 3-36)
FROM/TO VIDEO 2
5-VHS
SWD 5V
PB COL OUT
EDIT
(See page 3-32)
FROM/TO 04 A/S/M CN403
FSC OUT
GND
SYNC OUT
GND
AT FM OUT
GND
D.FF
(See page 3-20)
COLOR COMB GAIN-3
COLOR COMB PHASE-3
YNR BALANCE
AGC LEVEL-3
S.PB Y LEVEL N.PB Y LEVEL
(REC COLOR)
(PB COLOR)
(PB FM)
From/To 04 A/S/M CN4
EDIT
RENT
APT CTL
(See page 3-22)
From/To 43 PRE/REC CN3
REC FM OUT
GND
PB FM IN
GND
SYNC40DC
(See page 3-36)
FROM/TO VIDEO 2
PB Y OUT
5-VHS
REC Y IN
(See page 3-32)
Q601,Q602 2SC1740S(QRS)
Q401-Q403 2SC1740S(QRS)
Q405 2SA933S(RS)
Q406 2SA933S(RS)
Q407,Q408 2SC1740S(QRS)
Q409 2SA933S(RS)
Q410,Q416 DTA124ES
Q411 DTC124ES
Q412 DTC144ES
Q413 DTC124ES
Q414,Q415 DTC144ES
Q605 2SA933S(RS)
Q607 2SA933S(RS)
Q608 2SC1740S(QRS)
Q609 DTC144ES
Q610-Q612 2SC1740S(QRS)
Q613 2SA933S(RS)
Q614 DTC124ES
Q615 2SC1740S(S)
LPF601
BPF401
LPF401
LPF402
LPF403
LPF602
DL601 PU60227
X601 PEV60347
T601 PEL40575
L601 PEL40580
TP502
TP503
TP504
TP601
TP602
TP603
TP604
TP605
TP606
TP8
TP11
TP12
TP21
A
B
C
D
E
F
G
H
1
2
3
4
5

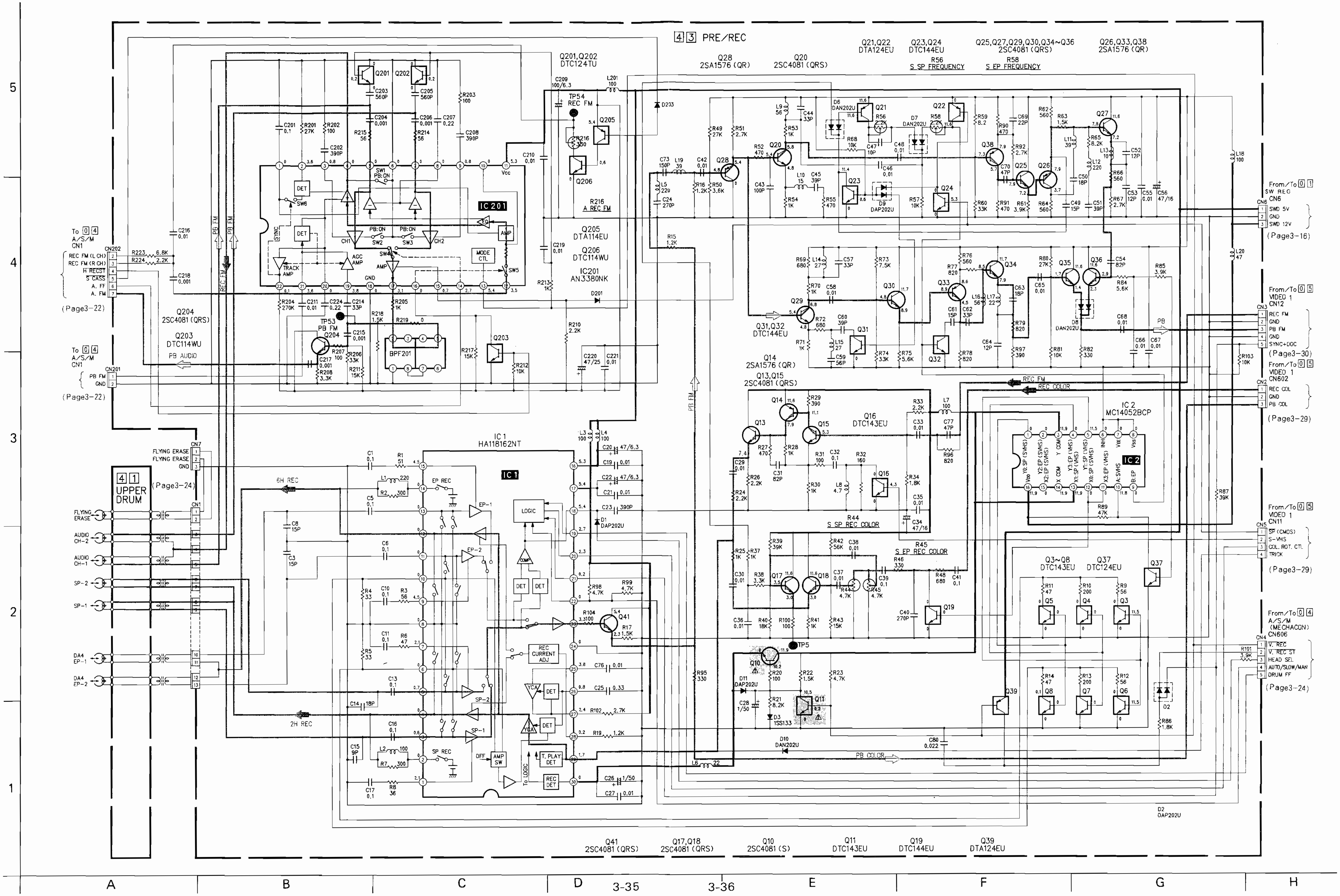
3.17 VIDEO(2) SCHEMATIC DIAGRAM


05 VIDEO ②
FROM/TO 08 TUNER/IF
CN1 (See page 3-39)
FROM/TO 36 SWITCH/JACK
CN203 (See page 3-44)
From/To 36 SWITCH/JACK CN206 (See page 3-44)
FROM/TO 08 TUNER/IF CN5 RF VIDEO (See page 3-40)
(VIDEO OUT)
S-CONN
RF CONVERTOR GND N.C
IC1
IC2
IC3
IC4
IC201
IC203
IC204
IC901
IC902
Q1 2SA933S(RS)
E-E 1.0Vp-p
E-E 1.2Vp-p
1.2Vp-p
Q903 DTC114ES
R903 10K
D910
R963 560
C935 56P
Q913 COLOR BURST
C921 DOT CLOCK
R964 150
Q904 2SK656
DTC144ES
Q913 2SA933S(RS)
FROM/TO 20 TIMER CN103 (See page 3-44)
SYNC DET
BLUE
G.S.CE
S.CLK
S.DATA
O.S.RST
GND
FROM/TO 04 A/S/M CN405 (See page3-20)
CP
TRICK
AUX
P.MUTE
FRONT
V.PULSE
SP
H.EE
S-VHS
Q914,Q916,Q917,Q919,Q920,Q923 2SC1740S(QRS)
Q915,Q918,Q921,Q922,Q924 2SA933S(RS)
Q907 2SA933S(RS)
Q908 2SC1740S(QRS)
Q201 2SA933S(RS)
EE Y LEVEL
AGC LEVEL-1
AGC LEVEL-2
Q8 2SA933S(RS)
Q209,Q210 2SC1740S(QRS)
Q211~Q214 2SC1740S(QRS)
COLOR COMB GAIN-1
COLOR COMB GAIN-2
COLOR COMB PHASE-1
COLOR COMB PHASE-2
Y-COMB GAIN-1
Y COMB GAIN-2
Q215~Q220 2SC1740S(QRS)
Q221 DTA124ES
Q222 2SC1740S(QRS)
FROM/TO 05 VIDEO1
DL IN
REC COLOR OUT
EE
PB COLOR IN
EDIT
SP(CMOS)
REC Y OUT
SP(CMOS)
GND
PB Y IN
TRICK
SVHS(H)(CMOS)
CP
PB Y FOR CRI I
SW 5V
FSC IN
S-VHS
PB
CNR IN
CNR OUT
(See page 3-29)
FROM/TO 02 REGULATOR CN7
SWD 5V
GND
SWD 12V
CN5 (See page 3-16)
LOGIC
LIMIT
DIFF
MULTI
RECTIFI
CNR
ADDER
EQ-1
EQ-2
EQ-3
LPF
Q10 DAT124ES
Q11,Q12 DTC144ES
Q13,Q15 2SC1740S(QRS)
Q14 2SA933S(RS)
(REC COLOR)
(REC Y)
(COLOR)
A
B
C
D
E
F
G
H
1
2
3
4
5

3.18 VIDEO CIRCUIT BOARD


R402
CNR NC BAL-1
R646
NCR NC BAL-2
L601
COLOR COMB PHASE-3
R621
COLOR COMB GAIN-3
R416
YNC BALANCE
R428
AGC LEVEL-3
R454
SPB Y LEVEL
R456
NBP
Y LEVEL
R212
EE Y
LEVEL
R243
COLOR
COMB GAIN-2
PB10591
VIDEO PWB ASS'Y
PB10591
-01-03
VIDEO PWB
R265
COLOR COMB PHASE-2
R264
COLOR COMB PHASE-1
R270
Y COMB GAIN-2
R229
COLOR COMB GAIN-1
R261
Y COMB GAIN-1
C913
COLOR BURST
C921
DOT CLOCK
R32
AGC LEVEL-2
R956
AGC LEVEL-1

3.19 PRE/REC SCHEMATIC DIAGRM



4 3 PRE/REC
Q201,Q202 DTC124TU
Q28 2SA1576 (QR)
Q20 2SC4081 (QRS)
Q21,Q22 DTA124EU
Q23,Q24 DTC144EU
Q25,Q27,Q29,Q30,Q34~Q36 2SC4081 (QRS)
Q26,Q33,Q38 2SA1576 (QR)
R56 S SP FREQUENCY
R58 S EP FREQUENCY
IC201
AN3380NK
Q205 DTA114EU
Q206 DTC114WU
Q204 2SC4081 (QRS)
Q203 DTC114WU
TP54 REC FM
TP53 PB FM
R216 A REC FM
PB AUDIO
BPF201
To 0 4 A/S/M CN1
CN202
REC FM (L CH)
REC FM (R CH)
H RECST
S CASS
A. FF
A. FM
(Page3-22)
To 0 4 A/S/M CN1
CN201
PB FM
GND
(Page3-22)
4 1 UPPER DRUM
CN7
FLYING ERASE
FLYING ERASE
GND
(Page3-24)
CN1
FLYING ERASE
AUDIO CH-2
AUDIO CH-1
SP-2
SP-1
DA4 EP-1
DA4 EP-2
IC1 HA118162NT
6H REC
2H REC
EP REC
SP REC
EP-1
EP-2
SP-1
SP-2
LOGIC
COMP
DET
REC CURRENT ADJ
VCA
T. PLAY DET
REC DET
AMP SW
To LOGIC
Q14 2SA1576 (QR)
Q13,Q15 2SC4081 (QRS)
Q16 DTC143EU
Q31,Q32 DTC144EU
R44 S SP REC COLOR
R45 S EP REC COLOR
IC 2 MC14052BCP
Q3~Q8 DTC143EU
Q37 DTC124EU
TP5
REC FM
REC COLOR
PB COLOR
PB FM
From/To 0 1 SW REG CN6
SWD 5V
GND
SWD 12V
(Page3-16)
From/To 0 5 VIDEO 1 CN12
CN3
REC FM
GND
PB FM
GND
SYNC+DOC
(Page3-30)
From/To 0 5 VIDEO 1 CN602
CN2
REC COL
GND
PB COL
(Page3-29)
From/To 0 5 VIDEO 1 CN11
CN5
SP (CMOS)
S-VHS
COL. ROT. CTL
TRICK
(Page3-29)
From/To 0 4 A/S/M (MECHACON) CN606
CN4
V. REC
V. REC ST
HEAD SEL
AUTO/SLOW/MAN
DRUM FF
(Page3-24)
D2 DAP202U
Q41 2SC4081 (QRS)
Q17,Q18 2SC4081 (QRS)
Q10 2SC4081 (S)
Q11 DTC143EU
Q19 DTC144EU
Q39 DTA124EU
A
B
C
D
E
F
G
H
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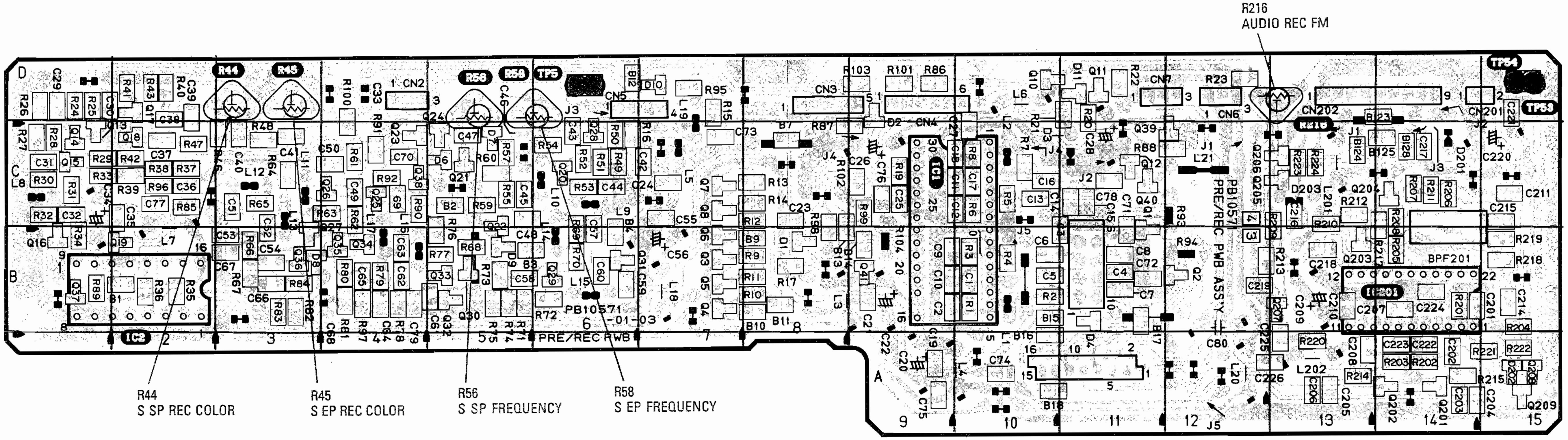
3.20 PRE/REC CIRCUIT BOARD

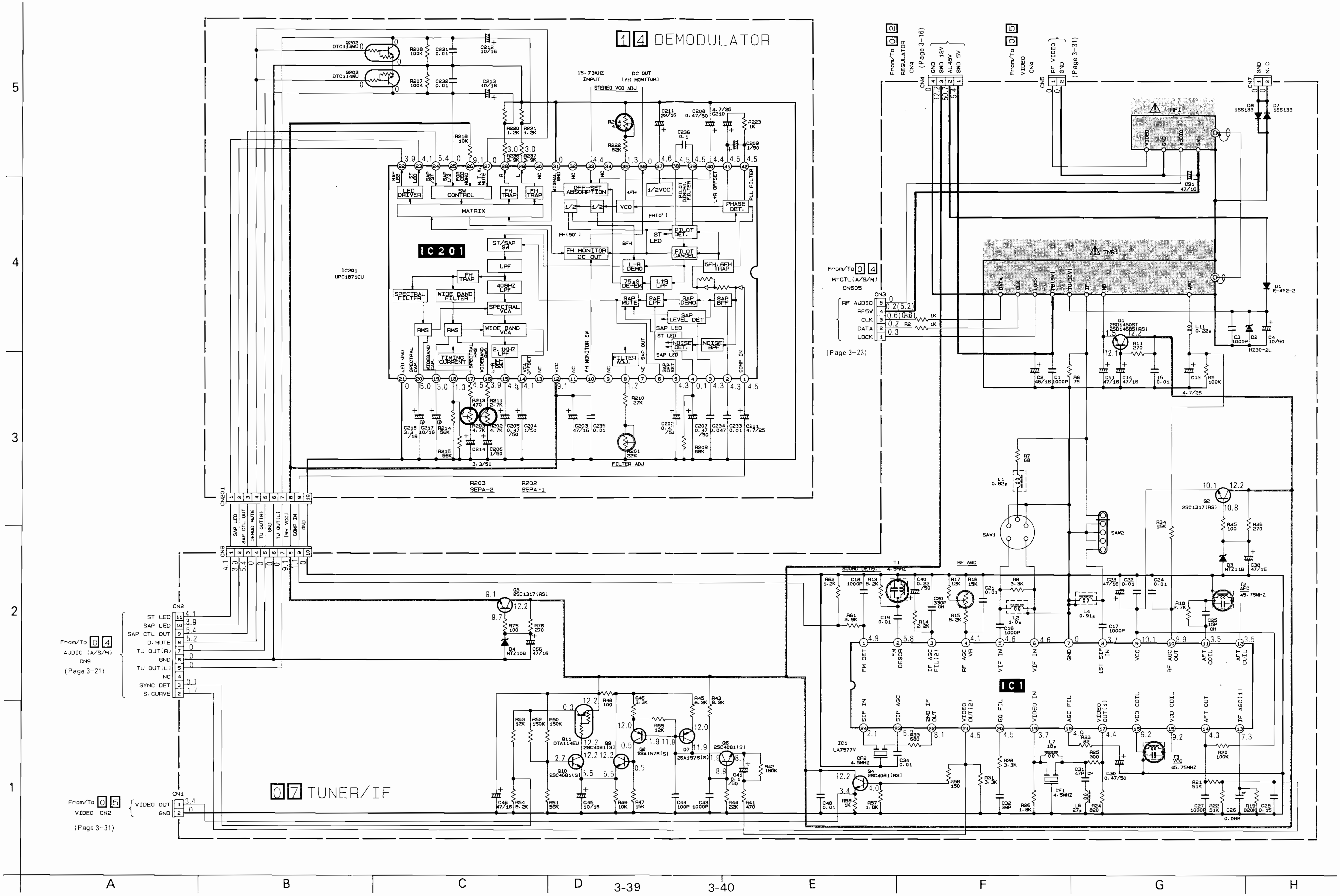


∘ Location of SMC parts

1D
└── Location

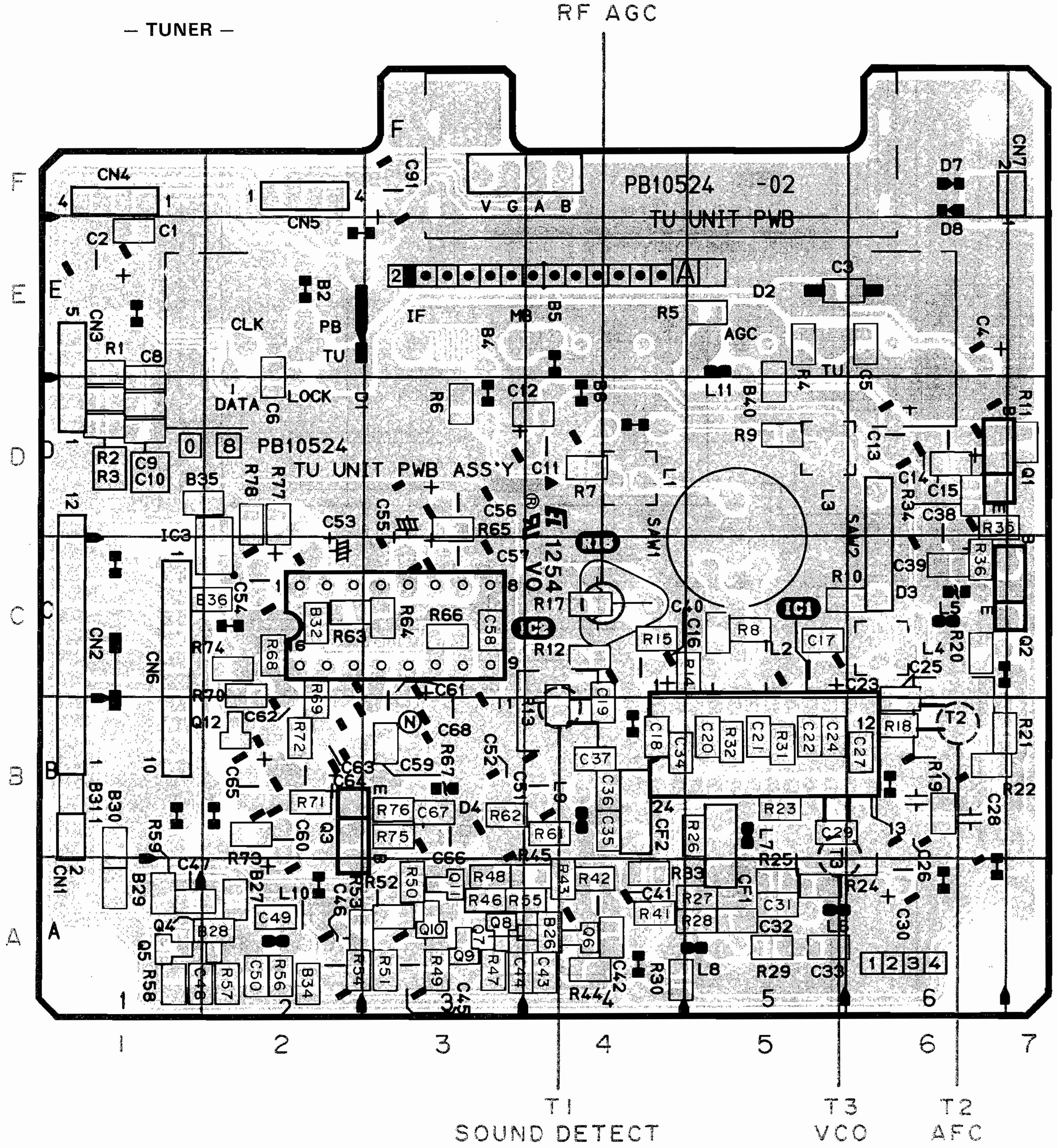
REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
TRANSISTOR		TRANSISTOR		RESISTOR		RESISTOR		RESISTOR		RESISTOR		CAPACITOR		CAPACITOR		CAPACITOR	
Q1	11B	Q35	4B	R1	10B	R34	1B	R73	5B	R205	14B	C1	10B	C43	6C	C203	14A
Q3	7B	Q36	3B	R2	10B	R37	2C	R74	5B	R206	14C	C3	11B	C44	6C	C204	15A
Q4	7B	Q37	1B	R3	10B	R38	2C	R75	5B	R207	14C	C4	11B	C45	5C	C205	13A
Q5	7B	Q38	4C	R4	10B	R39	2C	R76	5B	R208	14B	C5	10B	C47	5C	C206	13A
Q6	7B	Q39	11C	R5	10C	R40	2D	R77	5B	R210	13B	C6	10B	C48	5B	C207	13B
Q7	7C	Q40	11C	R6	10C	R41	2D	R78	4B	R211	14C	C7	11B	C49	4C	C208	13A
Q8	7C	Q41	9B	R7	10C	R42	2C	R79	4B	R212	13C	C8	11B	C50	4C	C210	13B
Q10	10D	Q201	14A	R8	10C	R43	2D	R80	4B	R213	13B	C10	9B	C51	3C	C211	15C
Q11	11D	Q202	14A	R9	8B	R46	3C	R81	4B	R214	13A	C11	10C	C52	3B	C214	15B
Q12	11C	Q203	13B	R10	8B	R48	3C	R82	3B	R215	15A	C13	10C	C53	3B	C215	15C
Q13	1D	Q204	13C	R11	8B	R49	6C	R84	3B	R217	14B	C14	11C	C54	3B	C216	13C
Q14	1C	Q205	12C	R12	8B	R50	6C	R85	2C	R218	15B	C15	11C	C55	7C	C217	14C
Q15	1C	Q206	12C	R13	8C	R51	6C	R86	9D	R219	15B	C16	10C	C57	6B	C218	13B
Q16	1B	Q207	13B	R14	8C	R52	6C	R87	8C	R220	13A	C17	10C	C58	5B	C219	12B
Q17	2D			R15	7D	R53	6C	R88	11C	R223	13C	C19	9A	C59	7B	C221	15D
Q18	2C			R16	7C	R54	6C	R89	1B	R224	13C	C21	9B	C60	6B	C224	14B
Q19	2B			R17	8B	R55	5C	R90	4C			C23	8C	C61	5B	C225	13A
Q20	6C			R19	9C	R57	5C	R91	4C			C24	7C	C62	4B		
Q21	5C			R20	11D	R59	5C	R92	4C			C25	9C	C63	4B		
Q22	5B	DIODE		R21	10C	R60	5C	R95	7D			C27	10C	C64	4B		
Q23	4C			R22	11D	R61	4C	R96	2C			C29	1D	C65	4B		
Q24	5D	D1	8B	R23	12D	R62	4C	R97	4B			C30	1D	C66	3B		
Q25	4C	D2	9C	R24	1D	R63	4C	R98	8B			C31	1C	C67	3B		
Q26	4C	D4	11A	R25	1D	R64	3C	R99	9C			C32	1C	C69	4C		
Q27	4B	D6	5C	R26	1D	R65	3C	R100	4D			C35	2C	C70	4C		
Q28	6C	D7	5C	R27	1C	R66	3B	R101	9D			C36	2C	C71	11C		
Q29	6B	D8	3B	R28	1C	R67	3B	R102	8C			C37	2C	C73	8C		
Q30	5B	D9	5B	R29	1C	R68	5B	R103	9D			C38	2D	C76	9C		
Q31	7B	D10	7D	R30	1C	R69	6B	R201	14B			C39	2D	C77	2C		
Q32	5B	D11	11D	R31	1C	R70	6B	R202	14A			C40	3C	C78	11C		
Q33	5B			R32	1C	R71	5B	R203	14A			C41	3C	C201	15B		
Q34	4B			R33	1C	R72	6B	R204	15A			C42	7C	C202	14A		

3.21 TUNER/IF AND DEMODULAR SCHEMATIC DIAGRAMS


14 DEMODULATOR
IC201
IC201 UPC1871CU
LED DRIVER
SW CONTROL
FH TRAP
MATRIX
OFF-SET ABSORPTION
1/2VCC
VCO
PILOT DET.
PHASE DET.
FH MONITOR DC OUT
PILOT CANCEL
L-R DEMO
5FH,6FH TRAP
ST/SAP SW
LPF
40KHZ LPF
SPECTRAL FILTER
WIDE BAND FILTER
SPECTRAL VCA
WIDE BAND VCA
RMS
TIMING CURRENT
2.1KHZ LPF
SAP MUTE
SAP LPF
SAP DEMO
SAP BPF
SAP LEVEL DET
NOISE DET.
NOISE BPF
FILTER ADJ.
15.73KHZ INPUT
DC OUT (fH MONITOR)
STEREO VCO ADJ
FILTER ADJ
R203 SEPA-2
R202 SEPA-1
CN201
SAP LED
SAP CTL OUT
DEMOD MUTE
TU OUT(R)
GND
TU OUT(L)
(9V VCC)
COMP IN
GND
CN6
From/To 02 REGULATOR CN4 (Page 3-16)
GND
SWD 12V
AL48V
SWD 5V
From/To 05 VIDEO CN4
RF VIDEO
GND
(Page 3-31)
CN7
GND
N.C
RFI
VIDEO
GND
AUDIO
5V
TNR1
DATA
CLK
LOCK
PB(5V)
TU(30V)
IF
MB
AGC
From/To 04 M-CTL(A/S/M) CN605
CN3
RF AUDIO
RF5V
CLK
DATA
LOCK
(Page 3-23)
Q1 2SD1450ST 2SD1468S(RS)
D1 E-452-2
D7 1SS133
D8 1SS133
SAW1
SAW2
T1 4.5MHZ
SOUND DETECT
RF AGC
Q2 2SC1317(RS)
D3 MTZ11B
T2 AFC 45.75MHZ
FM DET
FM DESCR
IF AGC FIL(2)
RF AGC VR
VIF IN
VIF IN
GND
1ST SIF IN
VCC
RF AGC OUT
AFT COIL
AFT COIL
IC1
SIF IN
SIF AGC
2ND IF OUT
VIDEO OUT(2)
EQ FIL
VIDEO IN
AGC FIL
VIDEO OUT(1)
VCO COIL
VCO COIL
AFT OUT
IF AGC(1)
IC1 LA7577V
CF2 4.5MHZ
T3 VCO 45.75MHZ
CF1 4.5MHZ
From/To 04 AUDIO (A/S/M) CN9 (Page 3-21)
CN2
ST LED
SAP LED
SAP CTL OUT
D.MUTE
TU OUT(R)
GND
TU OUT(L)
NC
SYNC DET
S.CURVE
Q3 2SC1317(RS)
D4 MTZ10B
Q11 DTA114EU
Q9 2SC4081(S)
Q10 2SC4081(S)
Q8 2SA1576(S)
Q7 2SA1576(S)
Q6 2SC4081(S)
Q4 2SC4081(RS)
07 TUNER/IF
From/To 05 VIDEO CN2 (Page 3-31)
CN1
VIDEO OUT
GND
Q202 DTC114WU
Q203 DTC114WU
5
4
3
2
1
A
B
C
D
E
F
G
H

3.22 TUNER/IF AND DEMODULAR CIRCUIT BOARDS

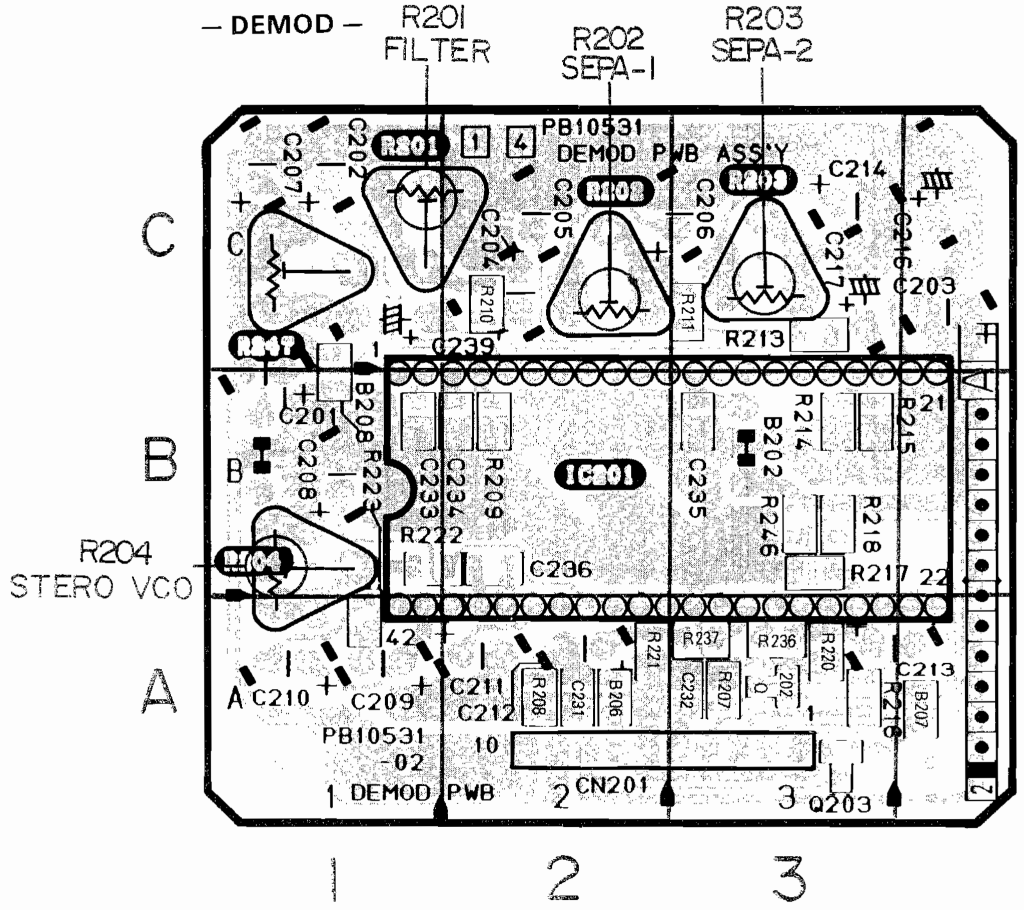
— TUNER —


RF AGC
PB10524 -02
TU UNIT PWB
PB10524
TU UNIT PWB ASS'Y
CN1
CN2
CN3
CN4
CN5
CN6
CN7
IC1
IC2
IC3
CLK
DATA
LOCK
PB
TU
IF
AGC
SAW1
SAW2
T1
SOUND DETECT
T3
VCO
T2
AFC
1
2
3
4
5
6
7
A
B
C
D
E
F

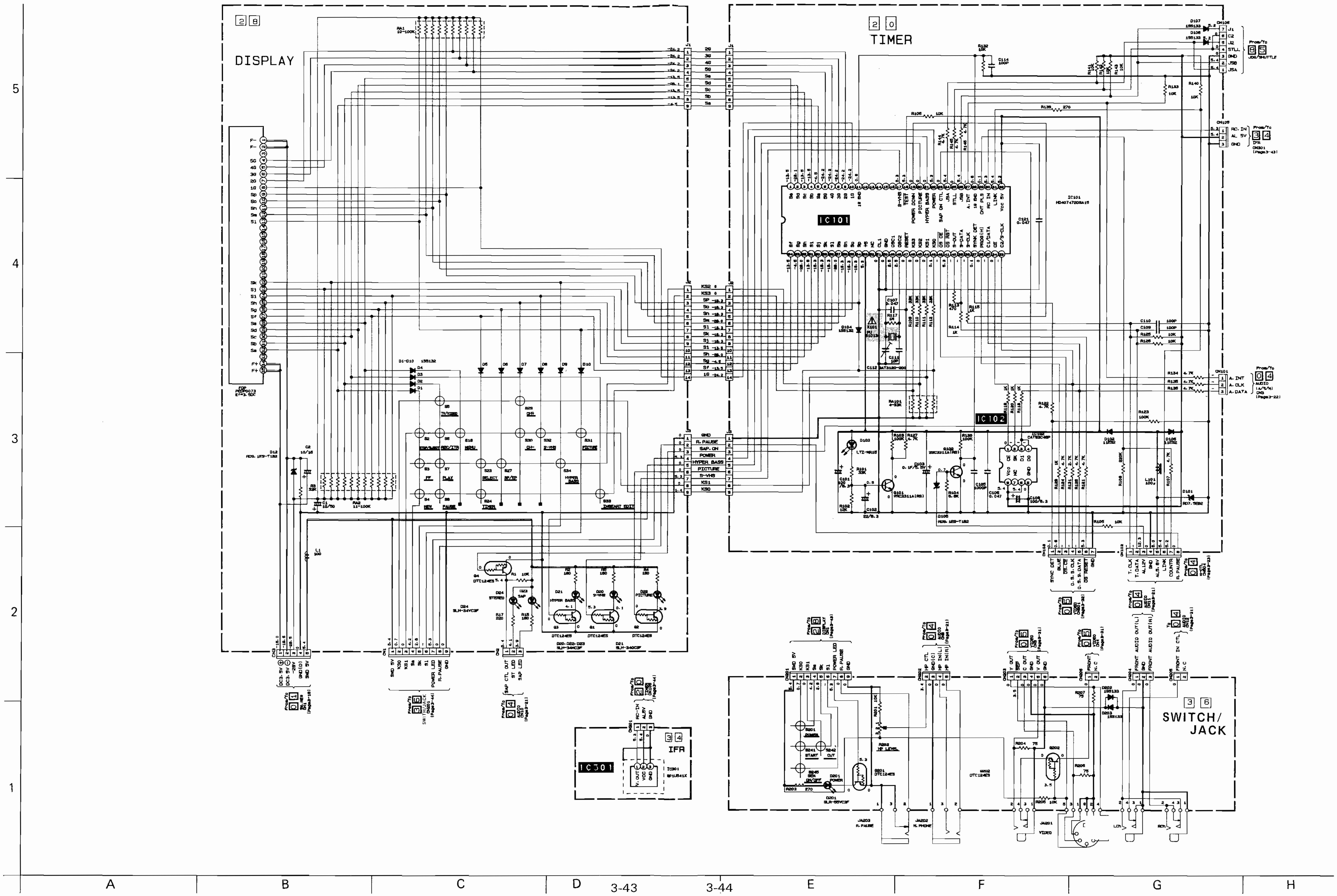
TUNER/IF CIRCUIT BOARD

REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION	REF. No.	LOCATION
TRANSISTOR		RESISTOR		RESISTOR		RESISTOR		CAPACITOR	
Q4	2A	R1	1E	R26	5B	R53	2A	C1	1E
Q6	4A	R2	1D	R28	5A	R54	2A	C3	5E
Q7	4A	R5	5E	R31	5B	R55	4A	C15	6D
Q8	3A	R6	3D	R33	4A	R56	2A	C16	5C
Q9	3A	R7	4D	R34	6D	R57	2A	C17	5C
Q10	3A	R8	5C	R35	6D	R58	1A	C18	4B
Q11	3A	R11	7D	R36	6C	R61	4B	C19	4B
		R13	4B	R41	4A	R62	3B	C20	5B
		R14	5C	R42	4A	R75	3B	C21	5B
		R15	4C	R43	4A	R76	3B	C22	5B
		R17	4C	R44	4A			C24	5B
		R18	6B	R45	4A			C25	6B
		R19	6B	R46	3A			C27	6B
		R20	6C	R47	3A			C31	5A
		R21	6B	R48	3A			C32	5A
		R22	6B	R49	3A			C34	4B
		R23	5B	R50	3A			C43	4A
		R24	5A	R51	3A			C44	3A
		R25	5A	R52	3A			C48	1A

— DEMOD —

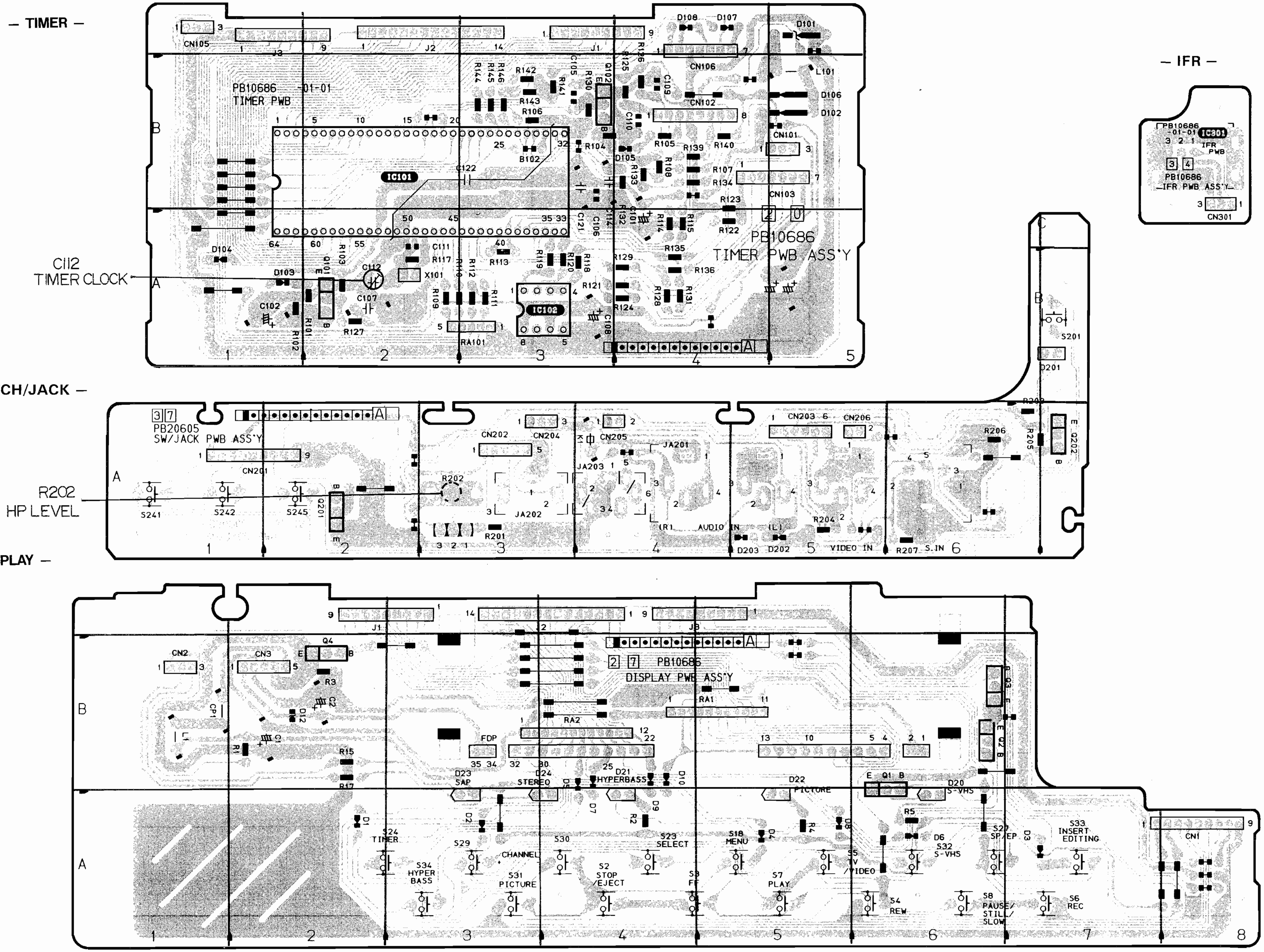

R201
FILTER
R202
SEPA-1
R203
SEPA-2
R204
STERO VCO
PB10531
DEMOD PWB ASS'Y
PB10531
-02
DEMOD PWB
IC201
CN201
Q203
1
2
3
A
B
C

3.23 TIMER, DISPLAY, SWITCH/JACK AND IFR SCHEMATIC DIAGRAMS



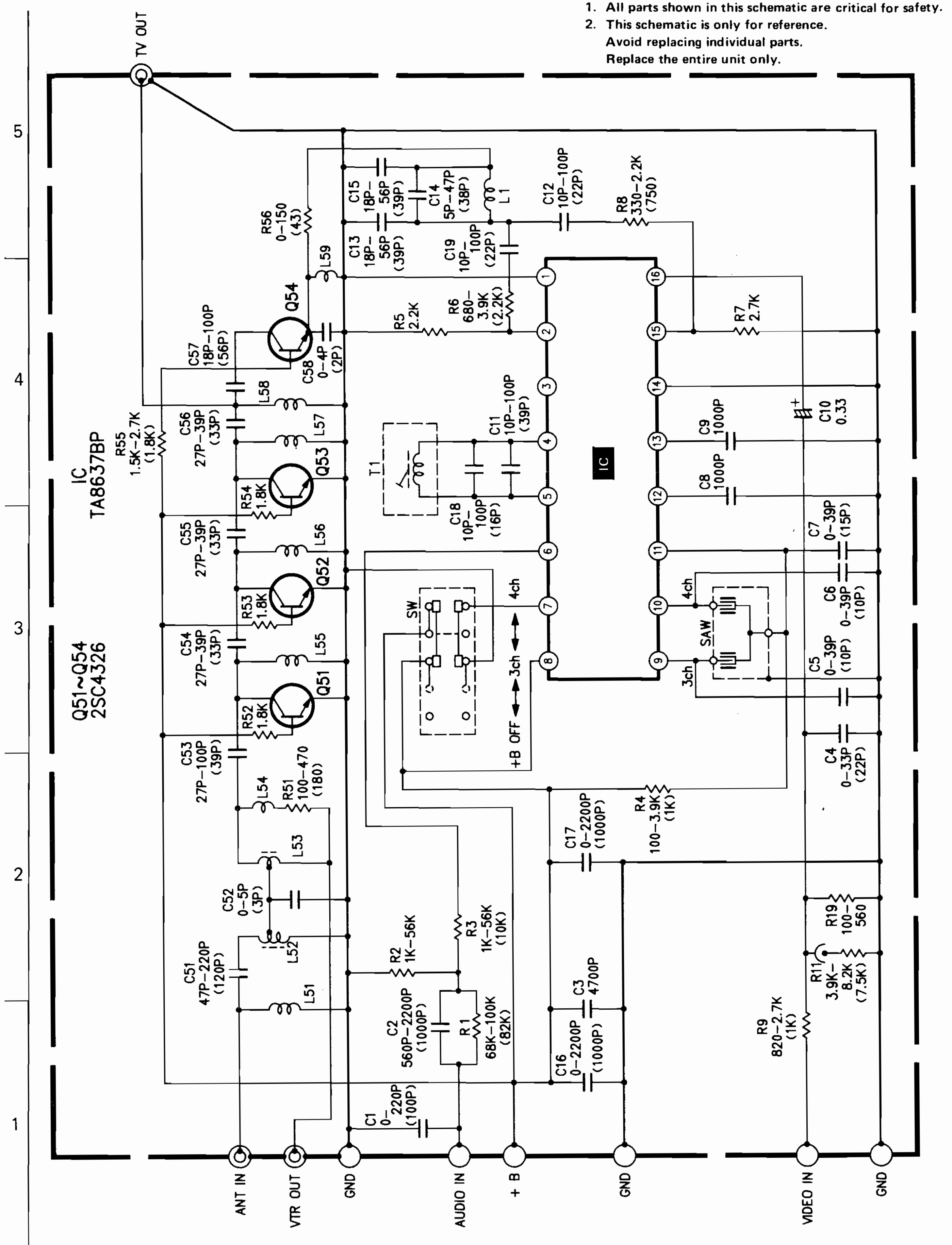
28
DISPLAY
20
TIMER
IC101
IC102
34
IFR
IC301
36
SWITCH/
JACK
A
B
C
D
E
F
G
H
1
2
3
4
5

3.24 TIMER, DISPLAY, SWITCH/JACK AND IFR CIRCUIT BOARDS


— TIMER —
PB10686 -01-01
TIMER PWB
PB10686
TIMER PWB ASS'Y
IC101
IC102
C112
TIMER CLOCK
CN101
CN102
CN103
CN105
CN106
J1
J2
J3
X101
RA101
— IFR —
PB10686 -01-01
IFR PWB
IC301
PB10686
IFR PWB ASS'Y
CN301
— SWITCH/JACK —
PB20605
SW/JACK PWB ASS'Y
R202
HP LEVEL
S241
S242
S245
S201
Q201
Q202
CN201
CN202
CN203
CN204
CN205
CN206
JA201
JA202
JA203
(R) AUDIO IN (L)
VIDEO IN
S.IN
— DISPLAY —
PB10686
DISPLAY PWB ASS'Y
FDP
RA1
RA2
CN1
CN2
CN3
D23 SAP
D24 STEREO
D21 HYPERBASS
D22 PICTURE
D20 S-VHS
S24 TIMER
S34 HYPER BASS
S29
CHANNEL
S31 PICTURE
S30
S2 STOP /EJECT
S23 SELECT
S3 FF
S18 MENU
S7 PLAY
S5 TV /VIDEO
S4 REW
D6 S32 S-VHS
S27 SP/EP
S8 PAUSE/ STILL/ SLOW
S33 INSERT EDITING
S6 REC

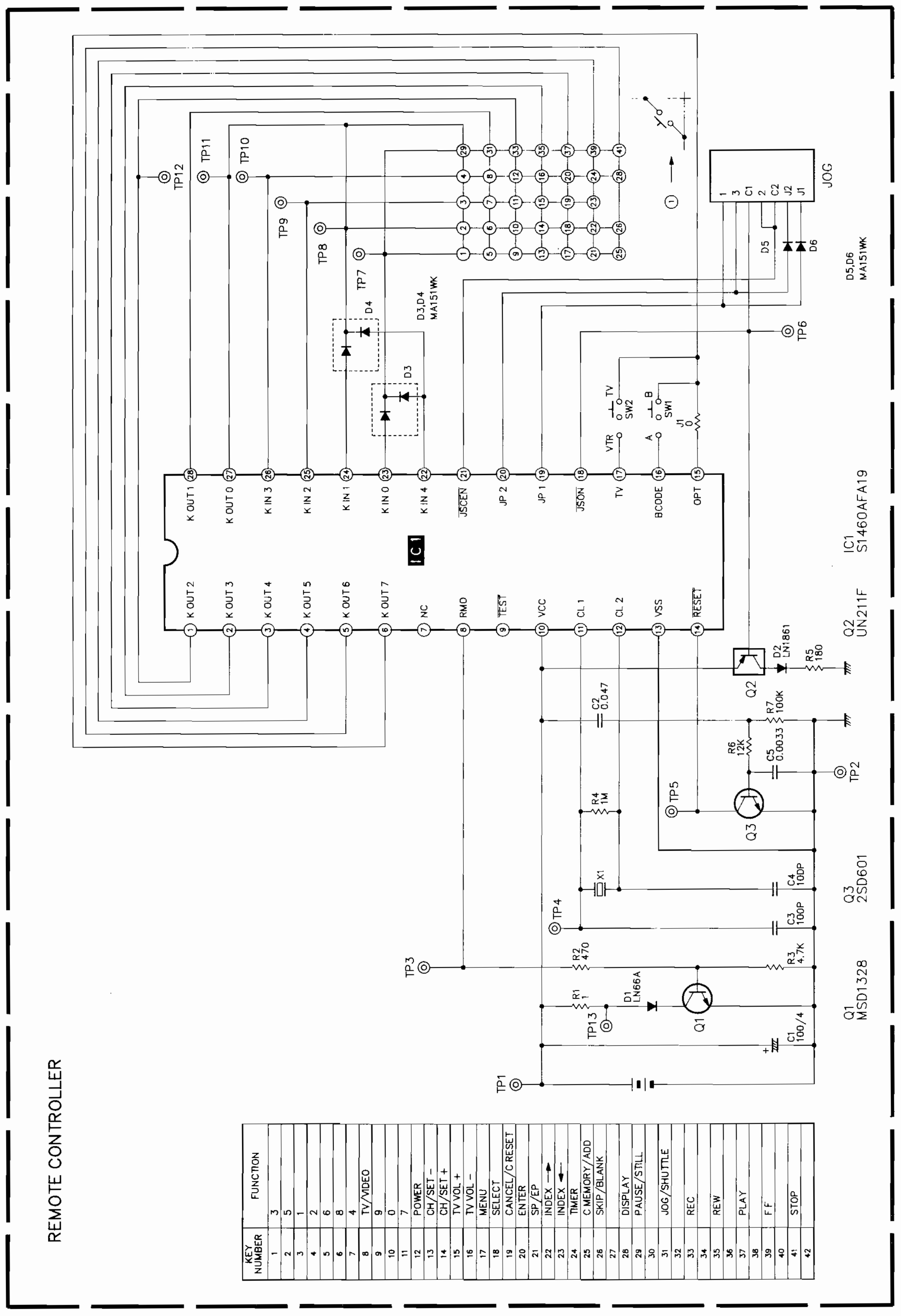
3.25 RF CONVERTER SCHEMATIC DIAGRAM

NOTE:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.


TV OUT
IC
TA8637BP
Q51~Q54
2SC4326
ANT IN
VTR OUT
GND
AUDIO IN
+B
GND
VIDEO IN
GND
SW
4ch
3ch
+B OFF
SAW
T1
L1
IC
R56 0–150 (43)
R55 1.5K–2.7K (1.8K)
C57 18P–100P (56P)
C58 0–4P (2P)
C56 27P–39P (33P)
C55 27P–39P (33P)
C54 27P–39P (33P)
C53 27P–100P (39P)
C52 0–5P (3P)
C51 47P–220P (120P)
R54 1.8K
R53 1.8K
R52 1.8K
R51 100–470 (180)
C15 18P–56P (39P)
C13 18P–56P (39P)
C14 5P–47P (38P)
C19 10P–100P (22P)
C12 10P–100P (22P)
R8 330–2.2K (750)
R5 2.2K
R6 680–3.9K (2.2K)
R7 2.7K
C11 10P–100P (39P)
C18 10P–100P (16P)
C9 1000P
C8 1000P
C10 0.33
C7 0–39P (15P)
C6 0–39P (10P)
C5 0–39P (10P)
C4 0–33P (22P)
R4 100–3.9K (1K)
C17 0–2200P (1000P)
R19 100–560
R11 3.9K–8.2K (7.5K)
R9 820–2.7K (1K)
R2 1K–56K
R3 1K–56K (10K)
C2 560P–2200P (1000P)
R1 68K–100K (82K)
C3 4700P
C16 0–2200P (1000P)
C1 0–220P (100P)
L51 L52 L53 L54 L55 L56 L57 L58 L59
Q51 Q52 Q53 Q54
5 4 3 2 1
A B C D

3.26 REMOTE CONTROL SCHEMATIC DIAGRAM

NOTE:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.


REMOTE CONTROLLER
IC1
S1460AF419
Q2
UN211F
Q3
2SD601
Q1
MSD1328
JOG
D5,D6
MA151WK
D3,D4
MA151WK
K OUT1
K OUT 0
K IN 3
K IN 2
K IN 1
K IN 0
K IN 4
JSCEN
JP 2
JP 1
JSON
TV
BCODE
OPT
K OUT 2
K OUT 3
K OUT 4
K OUT 5
K OUT 6
K OUT 7
NC
RMO
TEST
VCC
CL 1
CL 2
VSS
RESET
TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13
SW1
SW2
VTR
TV
A
B
J1
D1 LN66A
D2 LN1861
R1 1
R2 470
R3 4.7K
R4 1M
R5 180
R6 12K
R7 100K
C1 100/4
C2 0.047
C3 100P
C4 100P
C5 0.0033
X1
E F G H

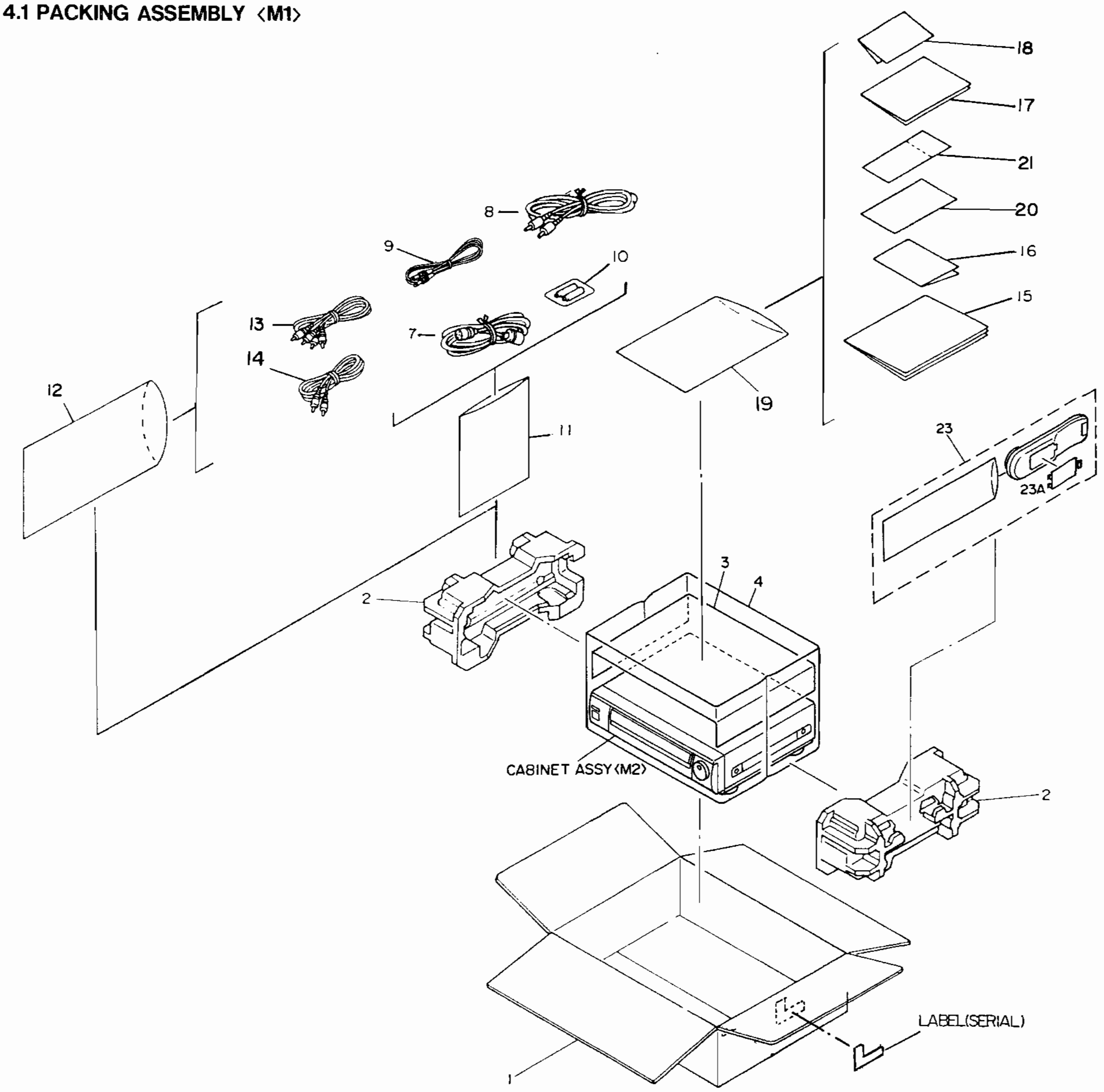
KEY NUMBER	FUNCTION
1	3
2	5
3	1
4	2
5	6
6	8
7	4
8	TV/VIDEO
9	9
10	0
11	7
12	POWER
13	CH/SET –
14	CH/SET +
15	TV VOL +
16	TV VOL –
17	MENU
18	SELECT
19	CANCEL/C RESET
20	ENTER
21	SP/EP
22	INDEX →
23	INDEX ←
24	TIMER
25	C MEMORY/ADD
26	SKIP/BLANK
27	
28	DISPLAY
29	PAUSE/STILL
30	
31	JOG/SHUTTLE
32	
33	REC
34	
35	REW
36	
37	PLAY
38	
39	F F
40	
41	STOP
42	

SECTION 4
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

Parts indentified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

4.1 PACKING ASSEMBLY <M1>

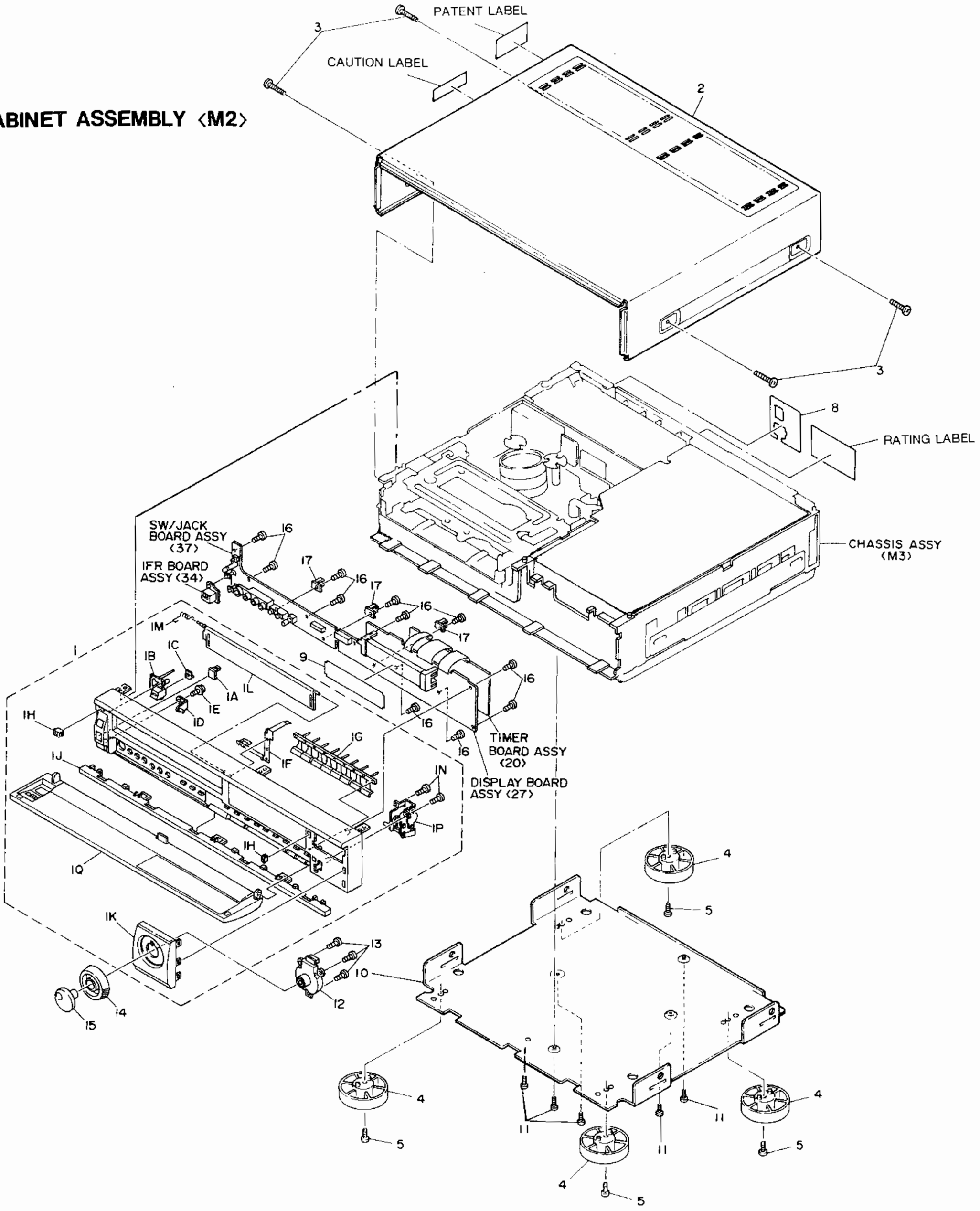


****

PACKING ASSEMBLY <M1>

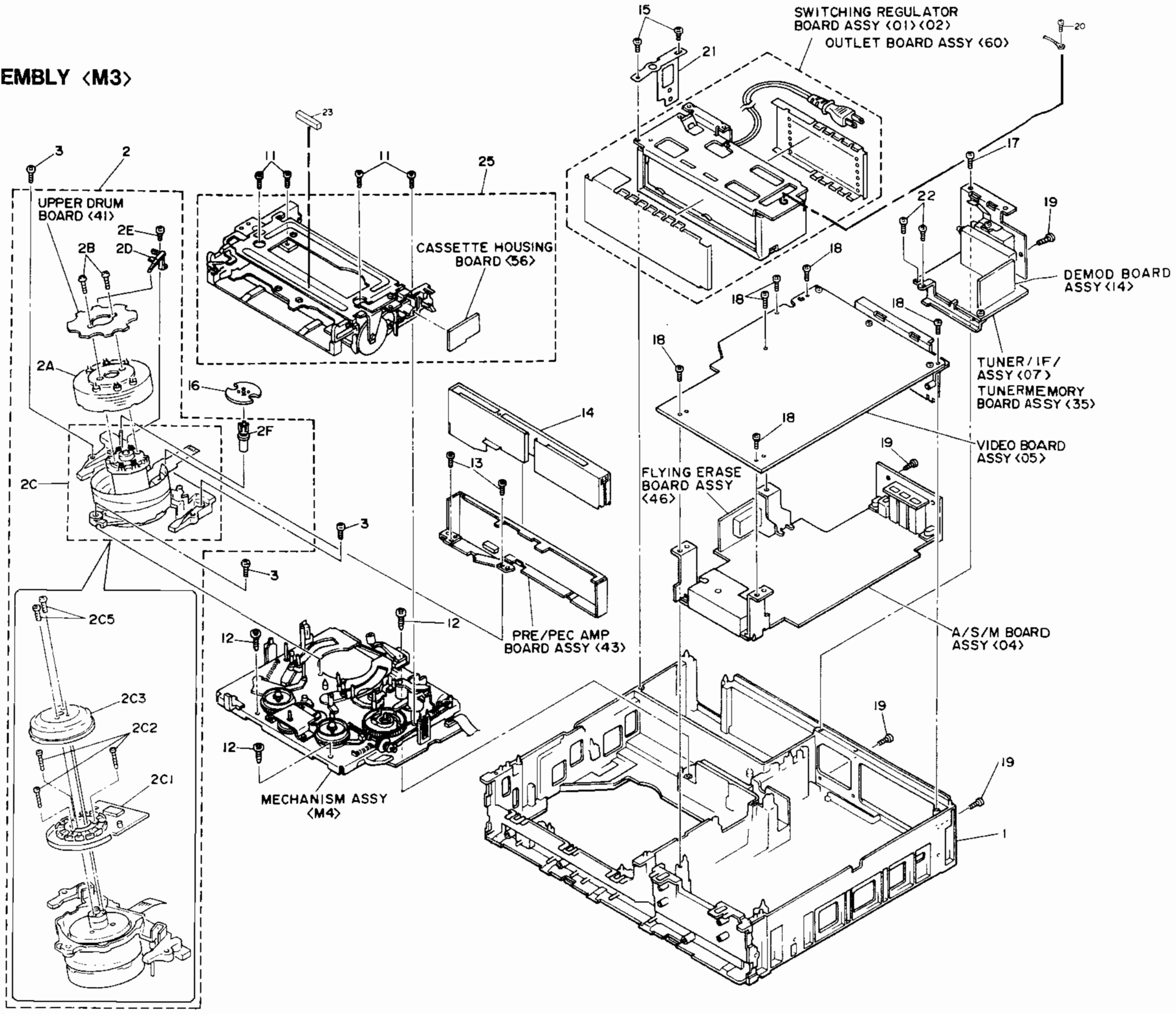
# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	PQ34528	PACKING CASE
	2	PQ34503A	CUSHION ASSY
	3	PQ41026-21	PROTECT SHEET
	4	PQM30021-82	POLY BAG
	7	PU59168-2	RF CABLE
		or PU59167-2	RF CABLE
	8	PU60111	DIN CORD
		or PU61113	MINI DIN CABLE
	9	PEAC0135	PIN CORD
	10	R6PRPA-2ST	BATTERY
	11	QPGA020-02005	POLY BAG
	12	QPGA010-02505	POLY BAG
	13	PU56142-3	PIN CORD ASSY
		or PU56142-5	PIN CORD ASSY
	14	PU59205-3	PIN JACK CABLE
		or PU59205-4	PIN JACK CABLE
⚠	15	PU30425-1313	INSTRUCTIONS
	16	TCU-3492	TAPE CATALOG
	17	BT-20062C	WARRANTY CARD
	18	BT-20046E	TOLL FREE CARD
	19	QPGA025-03505	POLY BAG
⚠	20	PU33941-3-3	SAFETY CAUTION
	21	PU36560	CONECTION SHEET
⚠	23	PQ11374B	REMOTE CONTROLLER
	23A	PQ34388	CAP(BATTERY)

4.2 CABINET ASSEMBLY ⟨M2⟩


PATENT LABEL
CAUTION LABEL
3
2
3
8
RATING LABEL
CHASSIS ASSY ⟨M3⟩
SW/JACK BOARD ASSY ⟨37⟩
16
IFR BOARD ASSY ⟨34⟩
17
16
17
16
17
1M
1
1C
1B
1A
1L
1E
1D
9
16
16
1H
1G
1F
16
TIMER BOARD ASSY ⟨20⟩
1J
1N
DISPLAY BOARD ASSY ⟨27⟩
1P
1H
1Q
4
5
1K
13
10
12
14
15
4
5
4
11
11
11
5
4
5

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
**********************************		
CABINET ASSEMBLY ＜M2＞		
1	PQ11392A	FRONT PANEL ASSY
1A	PQ45763	WINDOW(IR)
1B	PQ34403	BUTTON(POWER)
1C	PQ45762	INDICATOR(POWER
1D	PQ45838A	SHAFT ASSY
1E	SDSF2608Z	SCREW,FOR SHAFT
1F	PQ34409-1-1	PLATE(EARTH)
1G	PQ21416-1-1	BUTTON
1H	PU59891-2	MAGNET ASSY,X2
1J	PQ21165-7	COVER(FRONT)
1K	PQ21415-1-1	COVER
1L	PQ21414-1-1	CASSETTE DOOR
1M	PQ45704	TORSION SPRING
1N	SDSF2005Z	SCREW,X2 FOR DAMPER
1P	PQ34436A	DAMPER UNIT ASSY
1Q	PQ11423A	DOOR ASSY
⚠ 2	PQ11011-2-3	TOP COVER
3	PQ43827	SPECIAL SCREW, X4 FOR TOP COVER
4	PQ43749F-3	FOOT ASSY, X4
5	SDSF3010Z	SCREW, X4 FOR FOOT
⚠ 8	PQ33384-7	SHEET(OUTLET)
9	PQ45194-2	FILTER (FDP)
⚠ 10	PQ11025-1-5	BOTTOM COVER
11	SDSG3008Z	SCREW, X5 FOR BOTTOM COVER
12	PEME0886	JOG SHUTTLE ASSY
13	SDSF2605Z	SCREW, X3 FOR JOG SHUTTLE
14	PQ34405-1-1	KNOB (SHUTTLE)
15	PQ34406-1-1	KNOB (JOG)
16	SDSF2608Z	SCREW, X11 FOR T/D/S/J BOARD
17	YU40328-2	WIRE CLAMP X3

4.3 CHASSIS ASSEMBLY <M3>


15
SWITCHING REGULATOR BOARD ASSY <01><02>
OUTLET BOARD ASSY <60>
20
21
23
3
2
11
11
25
17
UPPER DRUM BOARD <41>
2E
2B
2D
CASSETTE HOUSING BOARD <56>
22
19
18
DEMOD BOARD ASSY <14>
18
18
2A
16
2F
14
18
TUNER/IF/ ASSY <07>
TUNERMEMORY BOARD ASSY <35>
18
VIDEO BOARD ASSY <05>
2C
13
19
FLYING ERASE BOARD ASSY <46>
3
3
2C5
12
12
PRE/PEC AMP BOARD ASSY <43>
A/S/M BOARD ASSY <04>
2C3
2C2
19
12
2C1
MECHANISM ASSY <M4>
19
1

BEWARE OF BOGUS PARTS

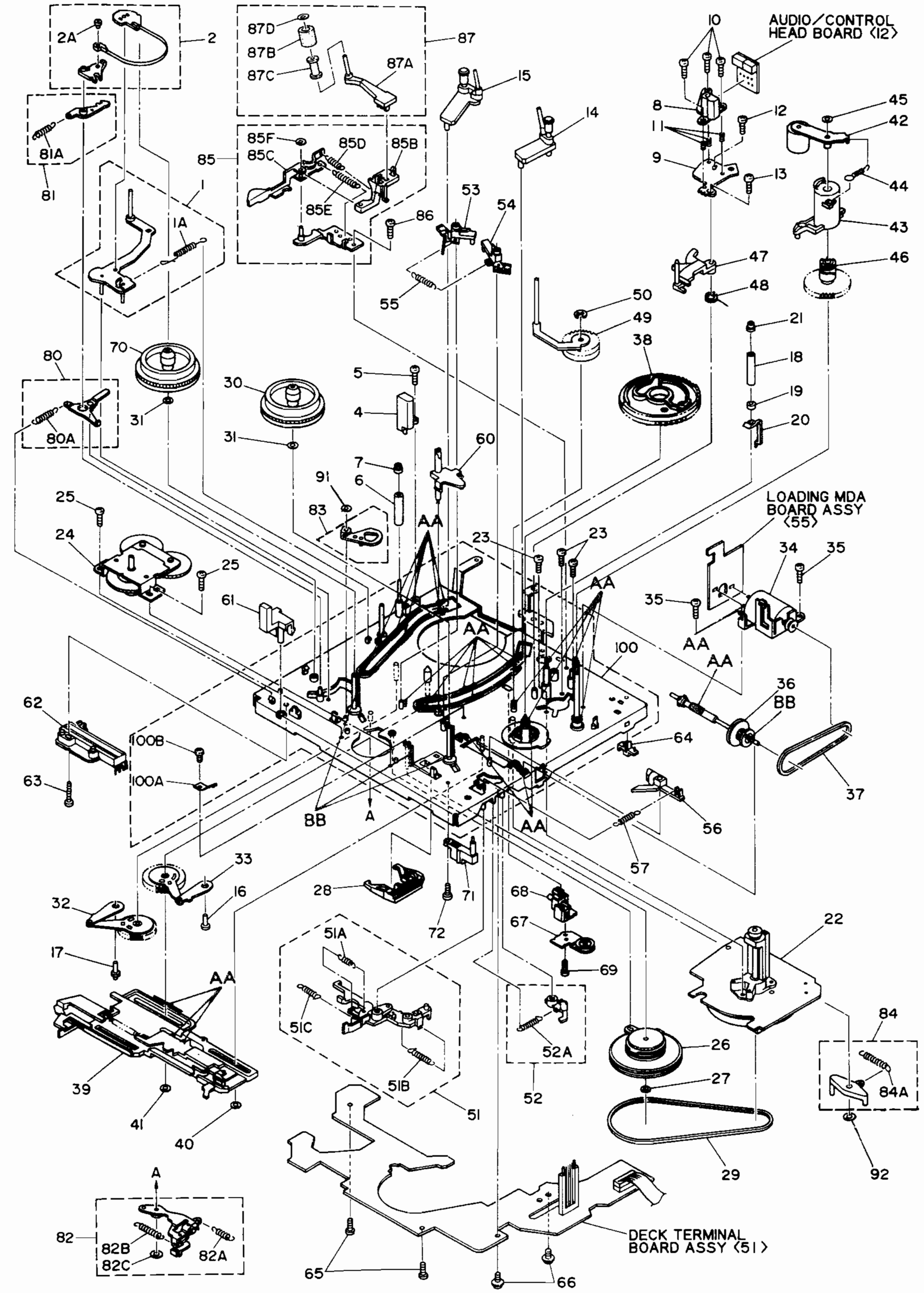
Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

* *

CHASSIS ASSEMBLY <M3>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	1	PQ10995-4	BOTTOM CHASSIS
	2	PDV2258A	DRUM ASSY
	2A	PDM2083J	UPPER DRUM ASSY
	2B	PDM4165A	DRUM SCREW ASSY, X2
	2C	PDM2138AG	LOWER DRUM MOTOR ASSY
⚠	2C1	PDZ0097	STATOR ASSY
	2C2	SPSH1712Z	MINI SCREW, X3
	2C3	PDZ0097-3	ROTOR ASSY
	2C4	SPSP2608N	SCREW, X2
	2D	PDM4229A-1	BRUSH ASSY
	2E	SPSG2606Z	SCREW
	2F	PDM4226A	ROLLER ASSY
	3	SDST2610Z	SCREW, X3 FOR DRUM ASSY
	11	SDST2608Z	SCREW, X4 FOR CSSETTE HOUSING
	12	PQ43831	SPECIAL SCREW, X3 FOR MAIN DECK
	13	SDSG2606Z	SCREW, X2 FOR PRE/REC
	14	PQ21272-1-2	SHIELD CASE,FOR PRE/REC
	15	SDSF3010Z	SCREW, X2 FOR SW REGULATOR
	16	PQ44230	INERTIA PLATE
	17	SDSF3010Z	SCREW, FOR TERMINAL
	18	SDSF3010Z	SCREW, X6 FOR VIDEO BOARD
	19	SDSF3010M	SCREW, X4 FOR REAR
	20	SDST3006Z	SCREW, FOR EARTH
	21	PQ44940-1-1	PLATE(EARTH)
	22	SDSF3010Z	SCREW, X2 FOR TUNER
	23	PQM30029-127	SPACER
	25	PUS29499D	CASSETTE HOUSING ASSY

4.4 MECHANISAM ASSENBLY ⟨M4⟩


2A
2
87D
87B
87C
87A
87
15
10
AUDIO/CONTROL HEAD BOARD ⟨12⟩
8
12
45
42
14
11
9
13
44
43
46
81A
81
85
85F
85C
85D
85B
85E
1
1A
53
54
86
55
47
48
50
49
38
21
18
19
20
70
80
30
5
4
31
31
80A
7
6
60
91
83
AA
LOADING MDA BOARD ASSY ⟨55⟩
25
24
25
23
23
34
35
35
AA
61
100
AA
AA
36
BB
62
100B
100A
64
37
63
BB
A
AA
56
57
33
16
32
28
71
72
68
67
69
22
17
51A
51C
52A
26
27
84
84A
AA
39
41
40
51B
51
52
29
92
A
82
82B
82C
82A
DECK TERMINAL BOARD ASSY ⟨51⟩
65
66

Category	Part number	MARK
Grease	KANTO-G-31KAV	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

****

MECHANISM ASSEMBLY <M4>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	PQ43497E-11	TENSION ARM ASSY
	1A	PQ43500	TENSION SPRING
	2	PQ44734A-7	TENSION BAND ASSY
	2A	PQ45456	ADJUST PIN
	4	PU60616	FULL ERASE HEAD
	5	SDSF2614Z	SCREW
	6	PQ43505-1-1	ROLLER
	7	PQ43506	GUIDE POLE CAP
	8	PU61002	AUDIO/CONTROL HEAD
	9	PQ43509	HEAD BASE
	10	PQ43687A	SPECIAL SCREW, X3
	11	PQM30002-192	COMPRESSION SPRING, X3
	12	SPSF2608M	SCREW
	13	SPSP2606Z	SCREW
	14	PU61103-2-7	POLE BASE (TAKE-UP) ASSY
	15	PU61151-2-6	POLE BASE (SUPPLY) ASSY
	16	PQ45895	STOPPER (T)
	17	PQ45894	STOPPER (S)
	18	PQ43526-1-3	TAPE GUIDE
	19	PQ43670-1-1	GUIDE FLANGE
	20	PQ43675	TAPE GUARD
	21	PQ43506	GUIDE POLE CAP
⚠	22	PU61003-1-2	CAPSTAN MOTOR
	23	SPSG2608Z	SCREW, X3
	24	PU61246	IDLER GEAR UNIT
	25	SPST2606Z	SCREW, X2
	26	PU61245-1-1	CLUTCH UNIT
		or PQ34212A	CLUCTH UNIT
	27	PQM30017-8	SLIT WASHER
	28	PQ43532B	CHANGE LEVER ASSY
	29	PU61006	TIMING BELT
	30	PU60858-1-4	REEL DISK (TAKE-UP)
		or PQ45617A	REEL DISK (TAKE-UP)
	31	PQM30018-54	SPACER, X2
	32	PQ43537A	LOADING ARM ASSY (SUPPLY)
	33	PQ43542B	LOADING ARM ASSY (TAKE-UP)
⚠	34	PQ43676B-5	MODE MOTOR ASSY
		or PQ43676C-7	MODE MOTOR ASSY
	35	SPST2606Z	SCREW, X2
	36	PQ43548A-3	WORM CLUTCH ASSY
	37	PQM30003-23	LOADING BELT
	38	PQ20822-2-7	CONTROL CAM
	39	PQ44581A-6	PLATE ASSY
	40	PQM30017-12	SLIT WASHER
	41	PQM30017-8	SLIT WASHER
	42	PQ43558A-5	PINCH ROLLER ARM ASSY
		or PQ43558B	PINCH ROLLER ARM ASSY
	43	PQ32415	PINCH ROLLER PRESS LEVER
	44	PQM30001-233	TENSION SPRING
	45	PQM30017-12	SLIT WASHER
	45	PQM30017-12	SLIT WASHER
	46	PQ32416-2	PINCH ROLLER CAM
	47	PQ43567A-13	GUIDE ARM ASSY
	48	PQ43569-1-3	TORSION SPRING
	49	PQ43570A-2	HALF LOADING GEAR ASSY
	50	PQM30017-12	SLIT WASHER
	51	PQ43575A-5	CANCEL LEVER ASSY
	51A	PQM30001-273	TENSION SPRING
	51B	PQM30001-237	TENSION SPRING
	51C	PQM30001-274	TENSION SPRING
	52	PQ43578A-2	HOOK ASSY
	52A	PQM30001-238	TENSION SPRING
	53	PQ43581C	MAIN BRAKE(SUPPLY) ASSY
	54	PQ43582B	MAIN BRAKE(TAKE-UP) ASSY
	55	PQM30001-251	TENSION SPRING
	56	PQ43583A-3	SUB BRAKE ASSY (TAKE-UP)
	57	PQM30001-346	TENSION SPRING
	60	PU60621-1-2	LED HOLDER,(INCL.D1)
	61	PU60624-1-4	REC SAFETY SWITCH
	62	PU61247-1-1	SLIDE ENCORDER,(S3)
	63	SDSF2614Z	SCREW
	64	PQ32516	PWB HOLDER
	65	SDST2616Z	SCREW,X2
	66	GPSF2608Z	SCREW,X2
	67	PQ43912A-7	PULLEY ARM ASSY
	68	PQ33249	PULLEY BASE
	69	PQ45121A	SCREW
	70	PU60859-1-4	REEL DISK (SUPPLY)
		or PQ45622A	REEL DISK (SUPPLY)
	71	PU61008	CASSETTE SWITCH
	72	SDST2608Z	SCREW
	80	PQ44739A-1	LOCK LEVER 1 ASSY
	80A	PQM30001-278-46	TENSION SPRING
	81	PQ44741A-3	LOCK LEVER 2 ASSY
	81A	PQM30001-279-52	TENSION SPRING
	82	PQ44743A-8	IDLER LEVER ASSY
	82A	PQM30001-344	TENSION SPRING
	82B	PQM30001-301	TENSION SPRING
	82C	PQM30017-5	SLIT WASHER
	83	PQ44746A-2	OFF LEVER ASSY
	84	PQ44585A-8	CAPSTAN BRAKE ASSY
	84A	PQM30001-282-52	SPRING
	85	PQ44843A-3	ARM BASE ASSY
	85B	PQ33511-1-2	CLEANER ARM
	85C	PQ44841-1-4	CANCEL LEVER
	85D	PQM30001-299	TENSION SPRING
	85E	PQM30001-300	TENSION SPRING
	85F	PQM30017-5	SLIT WASHER
	86	SPST2606Z	SCREW
	87	PQ44840B	CLEANER BASE ASSY
	87A	PQ44844A	CLEANER BASE SUB ASSY
	87B	PQ44837	CLEANER
	87C	PQ45689	CLEANER HOLDER
	87D	PQM30017-38	SLIT WASHER
	91	PQM30017-5	SLIT WASHER
	92	PQM30017-8	SLIT WASHER
	100	PQ20994B-5	MAIN DECK ASSY
		or PQ21232B-1	MAIN DECK ASSY
	100A	PQ43849	EARTH PLATE
	100B	SPST2604Z	SCREW

SECTION 5
ELECTRICAL PARTS LIST

SAFETY PRECAUTION
Parts indentified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

****

SWITCHING REGULATOR BOARD ASSEMBLY <01>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB10559D1	SWITCHING REGULATOR BOARD ASSY	
	IC1	LM358P	IC	
		or XRA10358	IC	
		or BA10358	IC	
		or LM358N	IC	
	Q1	2SC4161(MN)	TRANSISTOR	
	Q2	2SC3616(ML)	TRANSISTOR	
	Q4	2SB941P	TRANSISTOR	
		or 2SA1488	TRANSISTOR	
	D1	RB-156LFB	DIODE	
	D2	AU01	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
	D3	AG01	FR DIODE	
	D4	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-200-T2	FR DIODE	
	D5	UZ20BSA	ZENER DIODE	
		or RD20ES-T1B1	ZENER DIODE	
	D7	1SR153-200-T2	FR DIODE	
	D9	1SR153-200-T2	FR DIODE	
	D10	MTZ30AT-77	ZENER DIODE	
		or RD30ES-T1B1	ZENER DIODE	
		or UZ30BSA	ZENER DIODE	
	D11	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-200-T2	FR DIODE	
	D13	HZ22CP	ZENER DIODE	
	D14	FML-12S	FR DIODE	
		or MA644	FR DIODE	
		or 5DL2CZ41A	FR DIODE	
		or FCF06A20	FR DIODE	
	D15	1SR153-200-T2	FR DIODE	
	D16	FMB-24	BARRIER DIODE	
		or F5KQ40B	BARRIER DIODE	
		or 5GWJ2CZ42	SB DIODE	
	D18	UZ6.2BSA	ZENER DIODE	
		or MTZV6.2A	ZENER DIODE	
		or RD6.2ES-T1B1	ZENER DIODE	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	D19	1SS133	DIODE	
		or MA165	DIODE	
⚠	R1	QRC122K-225E	RESISTOR	2.2MΩ,1/2W
	R2	QRM025K-1R0	MP RESISTOR	1Ω,2W
	R3	QRD161J-823	RESISTOR	82KΩ,1/6W
	R4	QRD161J-823	RESISTOR	82KΩ,1/6W
	R5	QRD161J-473	RESISTOR	47KΩ,1/6W
	R6	QRG029J-333G	OMF RESISTOR	33KΩ,2W
⚠	R8	QRG029J-221G	OMF RESISTOR	220Ω,2W
	R9	QRX014J-R33Z	MF RESISTOR	0.33Ω,1W
	R10	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	R11	QRD161J-681	RESISTOR	680Ω,1/6W
⚠	R12	QRZ0077-470X	FUSIBLE RESISTOR	47Ω,1/4W
	R13	QRG029J-181G	OMF RESISTOR	180Ω,2W
	R14	QRD161J-103	RESISTOR	10KΩ,1/6W
⚠	R15	QRD161J-221	RESISTOR	220Ω,1/6W
	R16	QRV144F-8451AY	CMF RESISTOR	8.45KΩ,1/4W
	R17	QRV144F-9761AY	CMF RESISTOR	9.76KΩ,1/4W
	R18	QRD161J-102	RESISTOR	1KΩ,1/6W
	R19	QRD161J-222	RESISTOR	2.2KΩ,1/6W
	R21	QRV144F-9531AY	CMF RESISTOR	9.53KΩ,1/4W
	R22	QRV144F-9761AY	CMF RESISTOR	9.76KΩ,1/4W
	R23	QRV144F-4423AY	CMF RESISTOR	442KΩ,1/4W
	R24	QRD161J-471	RESISTOR	470Ω,1/6W
⚠	R26	QRZ0077-470X	FUSIBLE RESISTOR	47Ω,1/4W
	R27	QRD161J-222	RESISTOR	2.2KΩ,1/6W
	R28	QRG029J-203A	OMF RESISTOR	20KΩ,2W
⚠	C1	QFZ9022-333	MM CAPACITOR	0.033μF,125V
⚠		or QFZ9025-333	MM CAPACITOR	0.033μF,125V
⚠	C2	QFZ9022-333	MM CAPACITOR	0.033μF,125V
⚠		or QFZ9025-333	MM CAPACITOR	0.033μF,125V
⚠	C3	QCZ9016-472M	CAPACITOR	0.0047μF,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047μF,125V
⚠	C4	QCZ9016-472M	CAPACITOR	0.0047μF,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047μF,125V
⚠	C5	QCZ9016-472M	CAPACITOR	0.0047μF,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047μF,125V
⚠	C6	QCZ9016-472M	CAPACITOR	0.0047μF,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047μF,125V
⚠	C7	QCZ9016-472M	CAPACITOR	0.0047μF,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047μF,125V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C8	PU61024-107	E CAPACITOR	100 μ F,200V
		or PECA0782-107	E CAPACITOR	100 μ F,200V
	C9	QCZ0212-472	CAPACITOR	0.0047 μ F,1KV
		or QCY53AK-472	CAPACITOR	0.0047 μ F,1KV
	C10	QCZ0213-221Z	CAPACITOR	220PF,1KV
		or QCZ0212-221	CAPACITOR	220PF,1KV
	C1	QFV41HJ-824	TF CAPACITOR	0.82 μ F,50V
	C12	QFLA1HJ-472Z	M CAPACITOR	0.0047 μ F,50V
	C13	QETC1HM-225	E CAPACITOR	2.2 μ F,50V
	C14	QEZ0156-127Z	E CAPACITOR	120 μ F,6.3V
		or QEZ0135-127Z	E CAPACITOR	120 μ F,6.3V
	C15	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
	C16	QETC1HM-476	E CAPACITOR	47 μ F,50V
	C17	QETC1VM-336	E CAPACITOR	33 μ F,35V
	C19	QEZ0138-277	E CAPACITOR	270 μ F,25V
	C20	QETC1EM-227	E CAPACITOR	220 μ F,25V
	C22	QEMB1CM-158	E CAPACITOR	1500 μ F,16V
	C23	QEZ0105-128	E CAPACITOR	1200 μ F,16V
		or QEZ0137-128	E CAPACITOR	1200 μ F,16V
	C24	QETC1JM-336	E CAPACITOR	33 μ F,63V
	C25	QEZ0106-158	E CAPACITOR	1500 μ F,10V
		or QEZ0136-158	E CAPACITOR	1500 μ F,10V
	C26	QETB1AM-108	E CAPACITOR	1000 μ F,10V
	C27	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
		or QFLA1HJ-102Z	M CAPACITOR	0.001 μ F,50V
	C28	QFN31HJ-103	M CAPACITOR	0.01 μ F,50V
		or QFLA1HJ-103Z	M CAPACITOR	0.01 μ F,50V
	C29	QFV11HJ-104	MM CAPACITOR	0.1 μ F,50V
		or PECA0780-104Z	M CAPACITOR	0.1 μ F,50V
⚠	C31	QCZ9016-472M	CAPACITOR	0.0047 μ F,125V
⚠		or QCZ9048-472	CAPACITOR	0.0047 μ F,125V
⚠	C50	QCZ9052-101K	CAPACITOR	100PF,125V
	L1	PU48530-100K	COIL	10 μ H
	L2	PELN0270-330K	COIL	33 μ H
		or PELN0490-330K	COIL	33 μ H
		or PU60943-330K	COIL	33 μ H
	L3	PELN0270-100M	COIL	10 μ H
		or PU60943-100M	COIL	10 μ H
	L4	PELN0270-330K	COIL	33 μ H
		or PELN0490-330K	COIL	33 μ H
		or PU60943-330K	COIL	33 μ H
⚠	PC1	PC817	PHOTO COUPLER	
⚠		or PS2501-1	PHOTO COUPLER	
⚠	POC1	QMP14B0-200TG	POWER CORD	
⚠		or QMP14B0-200TGJ5	POWER CORD	
⚠	T1	PELN0318	SW TRANS	
⚠	AO1	QMC0242-007	AC OUTLET	
	BKT1	PQ21026-2-3	BRACKET (1)	
	BKT2	PQ21027-4-3	BRACKET (2)	
⚠	BKT3	PQ33381	BRACKET(POWER)	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	EHT1	PQ44695	EARTH PLATE	
	ETH2	PQ44613	EARTH PLATE	
⚠	HD1	QHS3771-108	STRAIN RELIEF	
⚠	HD2	PU57505	FUSE CLIP	
⚠	HS1	PQ44773-1-1	HEAT SINK	
⚠	HS2	PQ45238	HEAT SINK (3)	
⚠	HS3	PQ45237	HEAT SINK (2)	
	J1	PEMC0742-010	CONNECTOR (BOARD TO BOARD)	
	J2	PEMC0742-006	CONNECTOR (BOARD TO BOARD)	
⚠	LF1	PU61092	LINE FILTER	
⚠		or PU60401	LINE FILTER	
	SCW1	SDST3006Z	SCREW, X5	
	SCW2	SDSG3008Z	SCREW	
	SCW3	SDSG3008Z	SCREW	
	SCW4	DPSP3005Z	SCREW	
	SCW5	DPSP3008Z	SCREW, X2	
	SLD1	PQ33382	SHIELD COVER (1)	
	SLD2	PQ33383	SHIELD COVER (2)	
	CN1	PU60417-105	CONNECTOR	
	CN6	PU59555-103	CONNECTOR	
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR	
⚠	CP3	ICP-N20	CIRCUIT PROTECTOR	
⚠	CP4	ICP-N38	CIRCUIT PROTECTOR	
⚠	F1	QMF51N2-1R0J1	FUSE	T1.0A

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REGULATOR BOARD ASSEMBLY <02>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PB10559C2-01	REGULATOR BOARD ASSEMBLY
	IC2	LM358P	IC
		or XRA10358	IC
		or BA10358	IC
		or LM358N	IC
	Q31	2SD2166	TRANSISTOR
	Q32	2SB1068 (KU)	TRANSISTOR
	Q34	2SD1796	TRANSISTOR
		or 2SD1856	TRANSISTOR
		or 2SD1326	TRANSISTOR
	Q35	2SB1068 (KU)	TRANSISTOR
	D31	1SS133	DIODE
		or MA165	DIODE
	D32	1SS133	DIODE
		or MA165	DIODE
	D35	MTZV5.1C	ZENER DIODE
		or RD5.1ES-T1B3	ZENER DIODE
		or UZ5.1BSC	ZENER DIODE
	D36	1SS133	DIODE
		or MA165	DIODE

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R31	QRD161J-102	RESISTOR	1KΩ,1/6W
	R32	QRD161J-182	RESISTOR	1.8KΩ,1/6W
	R33	QRD161J-752	RESISTOR	7.5KΩ,1/6W
	R34	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R35	QRD161J-222	RESISTOR	2.2KΩ,1/6W
	R36	QVZ3521-222Z	V RESISTOR, SWD 5V	2.2Ω
		or QVZ3521-222	V RESISTOR, SWD 5V	2.2Ω
	R37	QRD161J-123	RESISTOR	12KΩ,1/6W
	R38	QRV144F-1001A	CMF RESISTOR	1KΩ,1/4W
	R39	QRV144F-1101AY	RESISTOR	1,1KΩ,1/4W
	R40	QRD161J-103	RESISTOR	10KΩ,1/6W
	R41	QRD161J-102	RESISTOR	1KΩ,1/6W
	R44	QRD161J-103	RESISTOR	10KΩ,1/6W
	R45	QRX014J-R27Z	MF RESISTOR	0.27Ω,1W
	R46	QRD161J-102	RESISTOR	1KΩ,1/6W
	R49	QRD161J-752	RESISTOR	7.5KΩ,1/6W
	C41	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C42	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C43	QETC1CM-107	E CAPACITOR	100μF,16V
	C44	QETC1CM-107	E CAPACITOR	100μF,16V
	C45	QETC1JM-106	E CAPACITOR	10μF,63V
	C46	QFN31HJ-103	M CAPACITOR	0.01μF,50V
		or QFLA1HJ-103Z	M CAPACITOR	0.01μF,50V
	C47	QETC1CM-107	E CAPACITOR	100μF,16V
	C48	QETC1CM-107	E CAPACITOR	100μF,16V
	SCW1	SDSG3008Z	SCREW, X2	
	CN3	PU60417-110	CONNECTOR	
	CN4	PU59555-104	CONNECTOR	
	CN5	PU59555-103	CONNECTOR	

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A/S/M BOARD ASSEMBLY <04>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PB10661A-01	A/S/M BOARD ASSY
	BKT1	PQ44693-1-1	BRACKET(1), X2
	BKT2	PQ44694-1-2	BRACKET(2)
	CL1	PEME0802	CLAMP, X2
	JA1	PU61012	MINI JACK,AV COMPULINK
	JA3	PEMC0761	PIN JACK (SW), AUDIO IN
	JA4	PEMC0760	PIN JACK, AUDIO OUT 1
	JA5	PEMC0760	PIN JACK, AUDIO OUT 2
	SCW1	SDSF2608Z	SCREW
	SCW2	SDSG2606Z	SCREW, X3
	SLD1	PQ33985	SHIELD COVER
⚠	TB1	PQ21444-1-3	TERMINAL BOARD (2)

— AUDIO SECTION —

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	IC1	JCP0038	IC
	IC2	M34225M2-110SP	IC
	IC3	M5223P	IC
	IC4	LA7151	IC
	IC5	LA7151	IC
	IC6	RE5RE50AA	IC
	IC201	XRA15218N	IC
		or BA15218N	IC
	Q1	2SD1468S(RS)	TRANSISTOR
	Q2	2SC4081(RS)	TRANSISTOR
	Q3	2SC4081(RS)	TRANSISTOR
	Q6	2SA1576(RS)	TRANSISTOR
	Q201	2SC4081(RS)	TRANSISTOR
	Q202	2SC4081(RS)	TRANSISTOR
	Q203	DTA114EU	TRANSISTOR
	Q204	DTC114WU	TRANSISTOR
	Q205	DTA114EU	TRANSISTOR
	Q206	2SC4081(RS)	TRANSISTOR
	Q207	DTC114WU	TRANSISTOR
	Q208	DTC114WU	TRANSISTOR
	Q209	DTC114WU	TRANSISTOR
	Q210	DTC114WU	TRANSISTOR
	Q211	DTC114WU	TRANSISTOR
	Q212	DTC114WU	TRANSISTOR
	Q213	DTC114WU	TRANSISTOR
	Q214	DTC114TU	TRANSISTOR
	Q215	DTA114EU	TRANSISTOR
	Q216	DTC114WU	TRANSISTOR
	Q217	DTA114EU	TRANSISTOR
	Q218	DTA114EU	TRANSISTOR
	Q219	2SC4097(RS)	TRANSISTOR
	D1	MTZ7.5B	ZENER DIODE
	D2	1SS133	DIODE
		or MA165	DIODE
	D4	1SS133	DIODE
		or MA165	DIODE
	D5	1SS133	DIODE
		or MA165	DIODE
	D6	1SS133	DIODE
		or MA165	DIODE
	D7	1SS133	DIODE
		or MA165	DIODE
	D8	DAN202U	DIODE
	D9	DAP202U	DIODE
	D10	1SS133	DIODE
		or MA165	DIODE
	D11	1SS133	DIODE
		or MA165	DIODE

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
D14	1SS133	DIODE	
	or MA165	DIODE	
D15	1SS133	DIODE	
	or MA165	DIODE	
D201	1SS133	DIODE	
	or MA165	DIODE	
D202	1SS133	DIODE	
	or MA165	DIODE	
D203	1SS133	DIODE	
	or MA165	DIODE	
D204	1SS133	DIODE	
	or MA165	DIODE	
R1	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
R2	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R3	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R4	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R5	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R6	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R7	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R8	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R9	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R10	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R20	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
R21	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
R22	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R23	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R24	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R25	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R26	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R27	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R28	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R31	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R32	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R33	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R34	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R35	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R37	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R45	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R46	QRSA08J-511YN	RESISTOR	510Ω,1/10W
R47	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R48	QRSA08J-513YN	RESISTOR	51KΩ,1/10W
R49	QVZ3523-473A	V RESISTOR, L PB LEVEL	47KΩ
R50	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R52	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R53	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R54	QVZ3523-103AZ	V RESISTOR, L CARRIER	10KΩ
R55	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
R56	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R57	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R58	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R60	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R61	QRSA08J-303YN	RESISTOR	30KΩ,1/10W
R62	QRSA08J-103YN	RESISTOR	10KΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R63	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R64	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R65	QVZ3523-472A	V RESISTOR,R CARRIER	4.7KΩ
R66	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R67	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R69	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R70	QVZ3523-473A	V RESISTOR,R PB LEVEL	47KΩ
R71	QRSA08J-513YN	RESISTOR	51KΩ,1/10W
R72	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R73	QRSA08J-511YN	RESISTOR	510Ω,1/10W
R74	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R79	QRSA08J-475YN	RESISTOR	4.7MΩ,1/10W
R80	QRSA08J-514YN	RESISTOR	510KΩ,1/10W
R81	QRSA08J-334YN	RESISTOR	330KΩ,1/10W
R82	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
R83	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
R84	QRSA08J-123YN	RESISTOR	12KΩ,1/10W
R85	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R86	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R87	QRSA08J-823YN	RESISTOR	82KΩ,1/10W
R88	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
R89	QRSA08J-680YN	RESISTOR	68Ω,1/10W
R90	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R91	QRSA08J-123YN	RESISTOR	12KΩ,1/10W
R92	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R93	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R94	QRSA08J-823YN	RESISTOR	82KΩ,1/10W
R95	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
R96	QRSA08J-680YN	RESISTOR	68Ω,1/10W
R97	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R98	QRSA08J-152YN	RESISTOR	1.5KΩ,1/10W
R99	QRSA08J-132YN	RESISTOR	1.3KΩ,1/10W
R100	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R101	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
R102	QRSA08J-182YN	RESISTOR	1.8KΩ,1/10W
R103	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R104	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R105	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R106	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R107	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R108	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R109	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R110	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R111	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R112	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R113	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R114	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R115	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R116	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R117	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R118	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R119	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R120	QRSA08J-123YN	RESISTOR	12KΩ,1/10W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R127	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R128	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R129	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R130	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R131	QRSA08J-334YN	RESISTOR	330KΩ,1/10W
R132	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
R133	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
R134	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
R201	QRSA08J-100YN	RESISTOR	10Ω,1/10W
R202	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R203	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R204	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R205	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R206	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
R209	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
R210	QRSA08J-203YN	RESISTOR	20KΩ,1/10W
R211	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
R212	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R213	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R214	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R215	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R216	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R217	QRSA08J-274YN	RESISTOR	270KΩ,1/10W
R218	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R219	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R220	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R221	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R222	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R223	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R224	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R225	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R226	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R227	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R228	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R229	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R230	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R231	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
R232	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R233	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R234	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R235	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R236	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R237	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R238	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R239	QVZ3518-473A	V RESISTOR,BIAS LEVEL	47KΩ
R240	QRSA08J-223YN	RESISTOR	22KΩ,1/10W
R241	QRSA08J-100YN	RESISTOR	10Ω,1/10W
R242	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R243	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R244	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
C1	QETC1CM-107	E CAPACITOR	100μF,16V
C7	QETC1CM-226	E CAPACITOR	22μF,16V

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C8	QETC1CM-226	E CAPACITOR	22μF,16V
C9	QETC1CM-476	E CAPACITOR	47μF,16V
C13	QETC1CM-226	E CAPACITOR	22μF,16V
C14	QETC1CM-226	E CAPACITOR	22μF,16V
C15	QETC1CM-476	E CAPACITOR	47μF,16V
C22	QFLA1HJ-473Z	M CAPACITOR	0.047μF,50V
C23	QETC1AM-336	E CAPACITOR	33μF,10V
C24	QETC1HM-225	E CAPACITOR	2.2μF,50V
C25	QFLA1HJ-333Z	M CAPACITOR	0.033μF,50V
C26	QENC1CM-106	NP E CAPACITOR	10μF,16V
C27	QETC1CM-106	E CAPACITOR	10μF,16V
C29	QFLA1HJ-103Z	M CAPACITOR	0.01μF,50V
C30	QETC1AM-107	E CAPACITOR	100μF,10V
C31	QCSA1HJ-102	CAPACITOR	0.001μF,50V
C32	QFLA1HJ-104Z	M CAPACITOR	0.1μF,50V
C33	QFLA1HJ-222Z	M CAPACITOR	0.0022μF,50V
C34	QCSA1HJ-821	CAPACITOR	820PF,50V
C35	QFLA1HJ-392Z	M CAPACITOR	0.0039μF,50V
C36	QFLA1HJ-333Z	M CAPACITOR	0.033μF,50V
C37	QETC1HM-105	E CAPACITOR	1μF,50V
C39	QCSA1HJ-561	CAPACITOR	560PF,50v
C40	QCYA1HK-103	CAPACITOR	0.01μF,50V
C41	QETC1AM-476	E CAPACITOR	47μF,10V
C42	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C43	QCSA1HJ-101	CAPACITOR	100PF,50V
C44	QCSA1HJ-101	CAPACITOR	100PF,50V
C45	QFLA1HJ-392Z	M CAPACITOR	0.0039μF,50V
C46	QCSA1HJ-821	CAPACITOR	820PF,50V
C47	QFLA1HJ-222Z	M CAPACITOR	0.0022μF,50V
C48	QFLA1HJ-104Z	M CAPACITOR	0.1μF,50V
C49	QCSA1HJ-102	CAPACITOR	0.001μF,50V
C50	QETC1AM-107	E CAPACITOR	100μF,10V
C51	QFLA1HJ-103Z	M CAPACITOR	0.01μF,50V
C53	QETC1CM-106	E CAPACITOR	10μF,16V
C54	QENC1CM-106	E CAPACITOR	10μF,16V
C55	QFLA1HJ-333Z	M CAPACITOR	0.033μF,50V
C56	QETC1HM-225	E CAPACITOR	2.2μF,50V
C57	QETC1AM-336	E CAPACITOR	33μF,10V
C58	QFLA1HJ-473Z	M CAPACITOR	0.047μF,50V
C61	QETC1CM-106	E CAPACITOR	10μF,16V
C62	QETC1CM-106	E CAPACITOR	10μF,16V
C64	QETC1CM-226	E CAPACITOR	22μF,16V
C65	QETC1CM-106	E CAPACITOR	10μF,16V
C66	QETC1CM-106	E CAPACITOR	10μF,16V
C67	QETC1AM-107	E CAPACITOR	100μF,10V
C68	QETC0JM-107	E CAPACITOR	100μF,6.3V
C69	QETC0JM-107	E CAPACITOR	100μF,6.3V
C70	QETC1CM-476	E CAPACITOR	47μF,16V
C71	QETC1AM-476	E CAPACITOR	47μF,10V
C72	QETC1CM-106	E CAPACITOR	10μF,16V
C73	QETC1CM-476	E CAPACITOR	47μF,16V
C74	QETC1CM-476	E CAPACITOR	47μF,16V
C75	QETC1CM-476	E CAPACITOR	47μF,16V

♯⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C76	QETC1CM-476	E CAPACITOR	47μF,16V
	C77	QCFA1HZ-104	CAPACITOR	0.1μF,50V
	C78	QETC1CM-106	E CAPACITOR	10μF,16V
	C79	QETC1CM-106	E CAPACITOR	10μF,16V
	C80	QCC11EJ-104	CAPACITOR	0.1μF,25V
	C81	QETC1AM-336	E CAPACITOR	33μF,10V
	C82	QCC11EJ-104	CAPACITOR	0.1μF,25V
	C83	QETC1AM-336	E CAPACITOR	33μF,10V
	C84	QETC1AM-107	E CAPACITOR	100μF,10V
	C85	QETC1CM-106	E CAPACITOR	10μF,16V
	C86	QCSA1HJ-102	CAPACITOR	0.001μF,50V
	C87	QCSA1HJ-102	CAPACITOR	0.001μF,50V
	C88	QETC1HM-105	E CAPACITOR	1μF,50V
	C89	QCYA1HK-221	CAPACITOR	220PF,50V
	C90	QCYA1HK-221	CAPACITOR	220PF,50V
	C91	QETC1AM-476	E CAPACITOR	47μF,10V
	C92	QCC11EJ-104	CAPACITOR	0.1μF,25V
	C93	QETC1AM-336	E CAPACITOR	33μF,10V
	C100	QFLA1HJ-822Z	M CAPACITOR	0.0082μF,50V
	C101	QFLA1HJ-822Z	M CAPACITOR	0.0082μF,50V
	C102	QEK61HM-105	E CAPACITOR	1μF,50V
	C103	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C104	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C105	QFV11HJ-104	MM CAPACITOR	0.1μF,50V
	C106	QCBB1HJ-102	CAPACITOR	0.001μF,50V
	C107	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C108	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C201	QETC1HM-105	E CAPACITOR	1μF,50V
	C202	QCYA1HK-332	CAPACITOR	0.0033μF,50V
	C203	QCSA1HJ-821	CAPACITOR	820PF,50V
	C204	QETC1CM-107	E CAPACITOR	100μF,16V
	C205	QETC1CM-476	E CAPACITOR	47μF,16V
	C206	QCSA1HJ-471	CAPACITOR	470PF,50V
	C207	QFLA1HJ-123Z	M CAPACITOR	0.012μF,50V
	C208	QETC1HM-224	E CAPACITOR	0.22μF,50V
	C209	QETC1CM-226	E CAPACITOR	22μF,16V
	C210	PU60550-105	E CAPACITOR	1μF,50V
	C211	QETC1HM-105	E CAPACITOR	1μF,50V
	C212	QETC1CM-106	E CAPACITOR	10μF,16V
	C213	QETC1CM-106	E CAPACITOR	10μF,16V
	C214	QFLA1HJ-153Z	M CAPACITOR	0.015μF,50V
	C215	QFV71HJ-333	TF CAPACITOR	0.033μF,50V
	C216	QFLA1HJ-393Z	M CAPACITOR	0.039μF,50V
	C217	QFLA1HJ-103Z	M CAPACITOR	0.01μF,50V
	C218	QFLA1HJ-183Z	M CAPACITOR	0.018μF,50V
	C219	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C220	QCSA1HJ-331	CAPACITOR	330PF,50V
	C221	QFLA1HJ-473Z	M CAPACITOR	0.047μF,50V
	C222	QCC11EJ-332	CAPACITOR	0.0033μF,25V
	C223	QCC11EJ-682	CAPACITOR	0.0068μF,25V
	C224	QETC1CM-106	E CAPACITOR	10μF,16V
	L1	PU59153-101K	COIL	100μH

♯⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L2	PELN0530-101J	COIL	100μH
	L3	PELN0530-101J	COIL	100μH
	L4	PELN0530-101J	COIL	100μH
	L5	PELN0530-101J	COIL	100μH
	L6	PELN0530-101J	COIL	100μH
	L201	PU58308-682J	COIL	6.8mH
	BPF1	PU60396	BAND PASS FILTER	
	BPF2	PU60397	BAND PASS FILTER	
⚠	CF1	PEVB0352	RESONATOR	
	K2	PU60281-5	FERRATE BEADS	
	K3	PU60281-5	FERRATE BEADS	
⚠	T201	PELN0531	OSC TRANSFORMER	
	TP1	PU55774	TEST PIN, X2	
	TP2	PU55774	TEST PIN, X3	
	CN1	PU59555-2	CONNECTOR	
	CN2	PU60417-6	CONNECTOR	
	CN3	PU60417-3	CONNECTOR	
	CN4	PU60417-3	CONNECTOR	
	CN5	PU58844-4	CONNECTOR	
	CN6	PU59555-2	CONNECTOR	
	CN7	PU59555-2	CONNECTOR	
	CN8	PU60417-4	CONNECTOR	
	CN9	PEMC0723-010	CONNECTOR(BOARD TO BOARD)	
	CN10	PU60417-3	CONNECTOR	
	CN11	PU59555-3	CONNECTOR	
	CN12	PU59555-2	CONNECTOR	
	CN13	PEMC0714-007	CONNECTOR	

— SERVO SECTION —

♯⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	IC401	HD49733ANT	IC	
	IC441	LM358N	IC	
		or LM358P	IC	
		or UPC358C	IC	
	IC442	MC14066BCP	IC	
		or BU4066B	IC	
		or CD4066BE	IC	
	IC451	BA7039	IC	
		or XRA7039	IC	
	Q401	2SA1576(QRS)	TRANSISTOR	
	Q441	DTC124EU	TRANSISTOR	
	Q442	DTC124EU	TRANSISTOR	
	D402	1SS133	DIODE	
		or MA165	DIODE	
	D403	1SS133	DIODE	
		or MA165	DIODE	
	D404	1SS133	DIODE	
		or MA165	DIODE	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	D406	1SS133	DIODE	
		or MA165	DIODE	
	D411	1SS133	DIODE	
		or MA165	DIODE	
	D412	1SS133	DIODE	
		or MA165	DIODE	
	R401	QRSA08J-821YN	RESISTOR	820Ω,1/10W
	R402	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R403	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R404	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R405	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R406	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R407	QRSA08J-823YN	RESISTOR	82KΩ,1/10W
	R408	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R409	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R410	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R411	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R412	QRSA08J-273YN	RESISTOR	27KΩ,1/10W
	R413	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
	R414	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R415	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
	R416	QRSA08J-224YN	RESISTOR	220KΩ,1/10W
	R418	QRSA08J-224YN	RESISTOR	220KΩ,1/10W
	R419	QRSA08J-823YN	RESISTOR	82KΩ,1/10W
	R420	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R421	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
	R422	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R423	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R424	QRSA08J-124YN	RESISTOR	120KΩ,1/10W
	R425	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R426	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R427	QVZ3518-474A	V RESISTOR,SWITCHING POINT	470KΩ
	R428	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
	R429	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R430	QRSA08J-225YN	RESISTOR	2.2MΩ,1/10W
	R434	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
	R435	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
	R441	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R442	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R443	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R444	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
	R445	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R446	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R447	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R448	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R449	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R450	QRSA08J-824YN	RESISTOR	820KΩ,1/10W
	R451	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R452	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
	R453	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R455	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
	R456	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R458	QRSA08J-104YN	RESISTOR	100KΩ,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C401	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C402	QETC1CM-226	E CAPACITOR	22μF,16V
	C403	QETC1CM-226	E CAPACITOR	22μF,16V
	C405	QCTA1CH-101	CAPACITOR	100PF,16V
	C406	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C407	QETC1HM-105	E CAPACITOR	1μF,50V
	C408	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C409	QCC31CK-563	CAPACITOR	0.056μF,16V
	C410	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C412	QCYA1EK-223	CAPACITOR	0.022μF,25V
	C413	QETC1CM-226	E CAPACITOR	22μF,16V
	C414	QFV71HJ-104	TF CAPACITOR	0.1μF,50V
		or QFN31HJ-104	M CAPACITOR	0.1μF,50V
	C415	QFLC1HJ-472Z	M CAPACITOR	0.0047μF,50V
		or QFN31HJ-472	M CAPACITOR	0.0047μF,50V
	C416	QETC1EM-475	E CAPACITOR	4.7μF,25V
	C417	QETC1EM-475	E CAPACITOR	4.7μF,25V
	C418	QETC1CM-106	E CAPACITOR	10μF,16V
	C419	QETC1CM-106	E CAPACITOR	10μF,16V
	C420	QFV71HJ-473	TF CAPACITOR	0.047μF,50V
		or QFN31HJ-473	M CAPACITOR	0.047μF,50V
	C421	QENC1HM-105	NP E CAPACITOR	1μF,50V
	C422	QCTA1CH-101	CAPACITOR	100PF,16V
	C423	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
	C426	QCTA1CH-181	CAPACITOR	180PF,16V
	C441	QEK61CM-106	E CAPACITOR	10μF,16V
		or QETC1CM-106	E CAPACITOR	10μF,16V
	C451	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C452	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C453	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C454	QCC31CK-104	CAPACITOR	0.1μF,16V
	C455	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C456	QFV71HJ-473	TF CAPACITOR	0.047μF,50V
	C457	QCYA1EK-103	CAPACITOR	0.01μF,25V
	C458	QETC1CM-226	E CAPACITOR	22μF,16V
	C459	QCYA1EK-103	CAPACITOR	0.01μF,25V
	L451	PU59152-270J	COIL	27μH
	TP401	PU55774	TEST PIN	
	CN401	PU58844-3	CONNECTOR	
	CN402	PU59555-4	CONNECTOR	
	CN403	PU59555-7	CONNECTOR	
	CN404	PU60417-3	CONNECTOR	
	CN405	PU60417-9	CONNECTOR	
⚠	CP401	ICP-N15	CIRCUIT PROTECTOR	

— MECHACON SECTION —

IC601	M37524M4-146SP	IC	
Q601	2SB1256	TRANSISTOR	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	Q602	DTC114TU	TRANSISTOR	
	D601	1SS133	DIODE	
		or MA165	DIODE	
	D602	1SS133	DIODE	
		or MA165	DIODE	
	D603	1SS133	DIODE	
		or MA165	DIODE	
	D604	1SS133	DIODE	
		or MA165	DIODE	
	D605	MTZ7.5B	ZENER DIODE	
		or HZS7.5EB2	ZENER DIODE	
	D606	11E2	DIODE	
		or 11ES2	DIODE	
	D607	S5688G	DIODE	
		or 1SR139-200	DIODE	
		or 11ES2	DIODE	
		or ERA15-02	DIODE	
	D608	1SS133	DIODE	
	D609	1SS133	DIODE	
	R601	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R602	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R603	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R604	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R605	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R606	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R607	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R608	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R609	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R610	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R612	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R613	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R614	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R615	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R616	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R617	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R619	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R620	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R621	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R622	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R623	QRSA08J-105YN	RESISTOR	1.0MΩ,1/10W
	R624	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R625	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R626	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R627	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R628	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R629	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R630	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R631	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R633	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R635	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R636	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R637	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R638	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R639	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R640	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R641	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
	R642	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R645	QRSA08J-303YN	RESISTOR	30KΩ,1/10W
	R646	QRSA08J-224YN	RESISTOR	220KΩ,1/10W
	R647	QRSA08J-154YN	RESISTOR	150KΩ,1/10W
	R648	QRSA08J-563YN	RESISTOR	56KΩ,1/10W
	R650	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R651	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R652	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
	R690	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R691	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	RA601	QRB055J-103M	RESISTOR ARRAY	
		or QRB055J-103F	RESISTOR ARRAY	
	C601	QCC11EK-223	CAPACITOR	0.022μF,25V
	C602	QEK61EM-335	E CAPACITOR	3.3μF,25V
	C603	QCC11EK-473	CAPACITOR	0.047μF,25V
	C604	QEK61HM-105	E CAPACITOR	1μF,50V
	C605	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C606	QCTA1CH-220	CAPACITOR	22PF,16V
	C610	QCC11EK-104	CAPACITOR	0.1μF,25V
	L601	PU59152-100J	COIL	10μH
	L602	PU59988-221J	COIL	220μH
⚠	CF601	PEVB0340	RESONATOR	
	K1	PU60281-5	FERRATE BEADS	
⚠	TH601	PESC1041	POSI THERMISTOR	
⚠		or PESC1089	POSI THERMISTOR	
	CN601	PEMC0722-018	WIRE TRAP	
		or PEMC0753-018	WIRE TRAP	
	CN602	PU59555-4	CONNECTOR	
	CN603	PU60417-10	CONNECTOR	
	CN604	PU60417-8	CONNECTOR	
	CN605	PEMC0723-005	CONNECTOR (BOARD TO BOARD)	
	CN606	PU60417-5	CONNECTOR	
	CN608	PU59555-2	CONNECTOR	
	CN609	PEMC0714-004	CONNECTOR	
⚠	CP601	ICP-N20	CIRCUIT PROTECTOR	

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VIDEO BOARD ASSEMBLY <05>

REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PB10591C-01	VIDEO UNIT BOARD ASSEMBLY
IC1	BA7649	IC
	or BA7649A	IC
IC2	PB10351A-03	CRI MODULE ASSY

♯⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	IC3	JCP0021	IC
	IC4	MC74HC04AN	IC
		or TC74HC04AP	IC
	IC201	CXL5502P	IC
	IC203	BA7602	IC
	IC204	AN3480K	IC
	IC401	TL8825P	IC
	IC402	PB20432C	Y MODULE ASSY
	IC403	AN6393	IC
	IC601	JCP0027	IC
	IC901	M52684AP	IC
	IC902	M50554-262SP	IC
	Q1	2SA933S (RS)	TRANSISTOR
	Q2	DTC144WS	TRANSISTOR
	Q3	DTC144WS	TRANSISTOR
	Q4	2SA933S (S)	TRANSISTOR
	Q5	2SA854S (R)	TRANSISTOR
	Q6	2SA854S (R)	TRANSISTOR
	Q7	2SA854S (R)	TRANSISTOR
	Q8	2SA933S (RS)	TRANSISTOR
	Q9	DTC144WS	TRANSISTOR
	Q10	DTA124ES	TRANSISTOR
	Q11	DTC144ES	TRANSISTOR
	Q12	DTC144ES	TRANSISTOR
	Q13	2SC1740S (QRS)	TRANSISTOR
	Q14	2SA933S (RS)	TRANSISTOR
	Q15	2SC1740S (QRS)	TRANSISTOR
	Q201	2SA933S (RS)	TRANSISTOR
	Q202	2SC1740S (S)	TRANSISTOR
	Q203	2SC1740S (S)	TRANSISTOR
	Q209	2SC1740S (QRS)	TRANSISTOR
	Q210	2SC1740S (QRS)	TRANSISTOR
	Q211	2SC1740S (QRS)	TRANSISTOR
	Q212	2SC1740S (QRS)	TRANSISTOR
	Q213	2SC1740S (QRS)	TRANSISTOR
	Q214	2SC1740S (QRS)	TRANSISTOR
	Q215	2SC1740S (QRS)	TRANSISTOR
	Q216	2SC1740S (QRS)	TRANSISTOR
	Q217	2SC1740S (QRS)	TRANSISTOR
	Q218	2SC1740S (QRS)	TRANSISTOR
	Q219	2SC1740S (QRS)	TRANSISTOR
	Q220	2SC1740S (QRS)	TRANSISTOR
	Q221	DTA124ES	TRANSISTOR
	Q222	2SC1740S (QRS)	TRANSISTOR
	Q401	2SC1740S (QRS)	TRANSISTOR
	Q402	2SC1740S (QRS)	TRANSISTOR
	Q403	2SC1740S (QRS)	TRANSISTOR
	Q405	2SA933S (RS)	TRANSISTOR
	Q406	2SA933S (RS)	TRANSISTOR
	Q407	2SC1740S (QRS)	TRANSISTOR
	Q408	2SC1740S (QRS)	TRANSISTOR
	Q409	2SA933S (RS)	TRANSISTOR

♯⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	Q410	DTA124ES	TRANSISTOR
	Q411	DTC124ES	TRANSISTOR
	Q412	DTC144WS	TRANSISTOR
	Q413	DTC124ES	TRANSISTOR
	Q414	DTC144ES	TRANSISTOR
	Q415	DTC144ES	TRANSISTOR
	Q416	DTC124ES	TRANSISTOR
	Q601	2SC1740S (QRS)	TRANSISTOR
	Q602	2SC1740S (QRS)	TRANSISTOR
	Q605	2SA933S (RS)	TRANSISTOR
	Q606	DTA124ES	TRANSISTOR
	Q607	2SA933S (RS)	TRANSISTOR
	Q608	2SC1740S (QRS)	TRANSISTOR
	Q609	DTC144ES	TRANSISTOR
	Q610	2SC1740S (QRS)	TRANSISTOR
	Q611	2SC1740S (QRS)	TRANSISTOR
	Q612	2SC1740S (QRS)	TRANSISTOR
	Q613	2SA933S (RS)	TRANSISTOR
	Q614	DTC124ES	TRANSISTOR
	Q615	2SC1740S (S)	TRANSISTOR
	Q901	DTC144ES	TRANSISTOR
	Q902	DTC114ES	TRANSISTOR
	Q903	DTC144ES	TRANSISTOR
	Q904	2SK656	FE TRANSISTOR
	Q905	DTA114ES	TRANSISTOR
	Q906	DTA114ES	TRANSISTOR
	Q907	2SA933S (RS)	TRANSISTOR
	Q908	2SC1740S (QRS)	TRANSISTOR
	Q909	DTC144WS	TRANSISTOR
	Q910	DTC124ES	TRANSISTOR
	Q911	DTC124ES	TRANSISTOR
	Q912	DTC124ES	TRANSISTOR
	Q913	2SA933S (RS)	TRANSISTOR
	Q914	2SC1740S (QRS)	TRANSISTOR
	Q915	2SA933S (RS)	TRANSISTOR
	Q916	2SC1740S (QRS)	TRANSISTOR
	Q917	2SC1740S (QRS)	TRANSISTOR
	Q918	2SA933S (RS)	TRANSISTOR
	Q919	2SC1740S (QRS)	TRANSISTOR
	Q920	2SC1740S (QRS)	TRANSISTOR
	Q921	2SA933S (RS)	TRANSISTOR
	Q922	2SA933S (RS)	TRANSISTOR
	Q923	2SC1740S (QRS)	TRANSISTOR
	Q924	2SA933S (RS)	TRANSISTOR
	Q925	DTC144WS	TRANSISTOR
	D1	1SS133	DIODE
		or MA165	DIODE
	D3	1SS133	DIODE
		or MA165	DIODE
	D4	1SS133	DIODE
		or MA165	DIODE
	D5	1SS133	DIODE
		or MA165	DIODE
		or MA165	DIODE

♯ ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	D7	1SS133	DIODE
		or MA165	DIODE
	D8	1SS133	DIODE
		or MA165	DIODE
	D204	1SS133	DIODE
		or MA165	DIODE
	D205	1SS133	DIODE
		or MA165	DIODE
	D401	1SS133	DIODE
		or MA165	DIODE
	D402	1SS133	DIODE
		or MA165	DIODE
	D403	1SS133	DIODE
		or MA165	DIODE
	D405	1SS133	DIODE
		or MA165	DIODE
	D406	1SS133	DIODE
		or MA165	DIODE
	D408	1SS133	DIODE
		or MA165	DIODE
	D409	1SS133	DIODE
		or MA165	DIODE
	D411	1SS133	DIODE
		or MA165	DIODE
	D603	1SS133	DIODE
		or MA165	DIODE
	D604	1SS133	DIODE
		or MA165	DIODE
	D605	1SS133	DIODE
		or MA165	DIODE
	D606	1SS133	DIODE
		or MA165	DIODE
	D607	1SS133	DIODE
		or MA165	DIODE
	D608	1SS292Y	DIODE
	D609	1SS133	DIODE
		or MA165	DIODE
	D610	1SS133	DIODE
		or MA165	DIODE
	D611	1SS133	DIODE
		or MA165	DIODE
	D901	1SS133	DIODE
		or MA165	DIODE
	D902	1SS133	DIODE
		or MA165	DIODE
	D903	1SS133	DIODE
		or MA165	DIODE
	D904	1SS133	DIODE
		or MA165	DIODE
	D905	1SS133	DIODE
		or MA165	DIODE
	D906	1SS133	DIODE
		or MA165	DIODE

♯ ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	D907	1SS133	DIODE	
		or MA165	DIODE	
	D908	1SS133	DIODE	
		or MA165	DIODE	
	D909	1SS133	DIODE	
		or MA165	DIODE	
	D910	1SS133	DIODE	
	R1	QRD161J-393	RESISTOR	39KΩ,1/6W
	R2	QRD161J-561	RESISTOR	560Ω,1/6W
	R3	QRD161J-331	RESISTOR	330Ω,1/6W
	R4	QRD161J-332	RESISTOR	3.3KΩ,1/6W
	R5	QRD161J-333	RESISTOR	33KΩ,1/6W
	R6	QRD161J-103	RESISTOR	10KΩ,1/6W
	R7	QRD161J-103	RESISTOR	10KΩ,1/6W
	R8	QRD161J-223	RESISTOR	22KΩ,1/6W
	R9	QRD161J-750	RESISTOR	75Ω,1/6W
	R10	QRD161J-103	RESISTOR	10KΩ,1/6W
	R11	QRD161J-102	RESISTOR	1KΩ,1/6W
	R12	QRD161J-102	RESISTOR	1KΩ,1/6W
	R13	QRD161J-750	RESISTOR	75Ω,1/6W
	R15	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	R16	QRD123J-391SX	RESISTOR	390Ω,1/2W
	R17	QRD161J-750	RESISTOR	75Ω,1/6W
	R18	QRD123J-391SX	RESISTOR	390Ω,1/2W
	R19	QRD161J-750	RESISTOR	75Ω,1/6W
	R20	QRD123J-391SX	RESISTOR	390Ω,1/2W
	R21	QRD161J-391	RESISTOR	390Ω,1/6W
	R22	QRD161J-124	RESISTOR	120KΩ,1/6W
	R23	QRD161J-154	RESISTOR	150KΩ,1/6W
	R24	QRD161J-332	RESISTOR	3.3KΩ,1/6W
	R25	QRD161J-162	RESISTOR	1.6KΩ,1/6W
	R26	QRD161J-561	RESISTOR	560Ω,1/6W
	R27	QRD161J-561	RESISTOR	560Ω,1/6W
	R28	QRD161J-681	RESISTOR	680Ω,1/6W
	R29	QRD161J-102	RESISTOR	1KΩ,1/6W
	R30	QRD161J-222	RESISTOR	2.2KΩ,1/6W
	R31	QRD161J-103	RESISTOR	10KΩ,1/6W
	R32	QVZ3518-103AZ	V RESISTOR, AGC LEVEL-2	10KΩ
	R33	QRD161J-152	RESISTOR	1.5KΩ,1/6W
	R34	QRD161J-103	RESISTOR	10KΩ,1/6W
	R35	QRD161J-102	RESISTOR	1KΩ,1/6W
	R36	QRD161J-102	RESISTOR	1KΩ,1/6W
	R37	QRD161J-102	RESISTOR	1KΩ,1/6W
	R38	QRD161J-102	RESISTOR	1KΩ,1/6W
	R39	QRD161J-562	RESISTOR	5.6KΩ,1/6W
	R41	QRD161J-223	RESISTOR	22KΩ,1/6W
	R42	QRD161J-223	RESISTOR	22KΩ,1/6W
	R43	QRD161J-750	RESISTOR	75Ω,1/6W
	R44	QRD161J-223	RESISTOR	22KΩ,1/6W
	R45	QRD161J-103	RESISTOR	10KΩ,1/6W
	R46	QRD161J-103	RESISTOR	10KΩ,1/6W
	R47	QRD161J-391	RESISTOR	390Ω,1/6W

♯ ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R48	QRD161J-221	RESISTOR	220Ω,1/6W
R49	QRD161J-911	RESISTOR	910Ω,1/6W
R50	QRD161J-223	RESISTOR	22KΩ,1/6W
R51	QRD161J-183	RESISTOR	18KΩ,1/6W
R52	QRD161J-332	RESISTOR	3.3KΩ,1/6W
R53	QRD161J-103	RESISTOR	10KΩ,1/6W
R54	QRD161J-104	RESISTOR	100KΩ,1/6W
R55	QRD161J-822	RESISTOR	8.2KΩ,1/6W
R59	QRD161J-101	RESISTOR	100Ω,1/6W
R60	QRD161J-101	RESISTOR	100Ω,1/6W
R61	QRD161J-101	RESISTOR	100Ω,1/6W
R62	QRD161J-564	RESISTOR	560KΩ,1/6W
R63	QRD161J-102	RESISTOR	1KΩ,1/6W
R201	QRD161J-202	RESISTOR	2KΩ,1/6W
R202	QRD161J-202	RESISTOR	2KΩ,1/6W
R203	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R204	QRD161J-105	RESISTOR	1.0MΩ,1/6W
R205	QRD161J-823	RESISTOR	82KΩ,1/6W
R206	QRD161J-102	RESISTOR	1KΩ,1/6W
R207	QRD161J-102	RESISTOR	1KΩ,1/6W
R209	QRD161J-102	RESISTOR	1KΩ,1/6W
R210	QRD161J-471	RESISTOR	470Ω,1/6W
R211	QRD161J-471	RESISTOR	470Ω,1/6W
R212	QVZ3518-681AZ	V RESISTOR, EE Y LEVEL	680Ω
R213	QRD161J-331	RESISTOR	330Ω,1/6W
R214	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R215	QRD161J-331	RESISTOR	330Ω,1/6W
R223	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R225	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R226	QRD161J-182	RESISTOR	1.8KΩ,1/6W
R227	QRD161J-102	RESISTOR	1KΩ,1/6W
R228	QRD161J-102	RESISTOR	1KΩ,1/6W
R229	QVZ3518-331AZ	V RESISTOR, COLOR COMB GAIN-1	330Ω
R230	QRD161J-681	RESISTOR	680Ω,1/6W
R231	QRD161J-221	RESISTOR	220Ω,1/6W
R232	QRD161J-561	RESISTOR	560Ω,1/6W
R233	QRD161J-333	RESISTOR	33KΩ,1/6W
R234	QRD161J-561	RESISTOR	560Ω,1/6W
R235	QRD161J-183	RESISTOR	18KΩ,1/6W
R236	QRD161J-271	RESISTOR	270Ω,1/6W
R237	QRD161J-821	RESISTOR	820Ω,1/6W
R238	QRD161J-102	RESISTOR	1KΩ,1/6W
R239	QRD161J-271	RESISTOR	270Ω,1/6W
R240	QRD161J-151	RESISTOR	150Ω,1/6W
R241	QRD161J-562	RESISTOR	5.6KΩ,1/6W
R242	QRD161J-221	RESISTOR	220Ω,1/6W
R243	QVZ3518-103AZ	V RESISTOR,COLOR COMB GAIN-2	10KΩ
R244	QRD161J-102	RESISTOR	1KΩ,1/6W
R245	QRD161J-102	RESISTOR	1KΩ,1/6W
R246	QRD161J-102	RESISTOR	1KΩ,1/6W
R247	QRD161J-471	RESISTOR	470Ω,1/6W
R248	QRD161J-102	RESISTOR	1KΩ,1/6W
R249	QRD161J-102	RESISTOR	1KΩ,1/6W

♯ ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R250	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R251	QRD161J-331	RESISTOR	330Ω,1/6W
R252	QRD161J-103	RESISTOR	10KΩ,1/6W
R253	QRD161J-471	RESISTOR	470Ω,1/6W
R254	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R255	QRD161J-301	RESISTOR	300Ω,1/6W
R256	QRD161J-681	RESISTOR	680Ω,1/6W
R257	QRD161J-621	RESISTOR	620Ω,1/6W
R258	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R259	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R260	QRD161J-182	RESISTOR	1.8KΩ,1/6W
R261	QVZ3518-332AZ	V RESISTOR, Y COMB GAIN-1	3.3KΩ
R262	QRD161J-331	RESISTOR	330Ω,1/6W
R263	QRD161J-103	RESISTOR	10KΩ,1/6W
R264	QVZ3518-102AZ	V RESISTOR, COLOR COMB PHASE-1	1KΩ
R265	QVZ3518-222AZ	V RESISTOR, COLOR COMB PHASE-2	2.2KΩ
R266	QRD161J-102	RESISTOR	1KΩ,1/6W
R267	QRV144F-1001A	CMF RESISTOR	1KΩ,1/4W
R268	QRV144F-1001A	CMF RESISTOR	1KΩ,1/4W
R269	QRD161J-391	RESISTOR	390Ω,1/6W
R270	QVZ3518-332AZ	V RESISTOR, Y COMB GAIN-2	3.3KΩ
R271	QRD161J-122	RESISTOR	1.2KΩ,1/6W
R272	QRD161J-122	RESISTOR	1.2KΩ,1/6W
R273	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R401	QRD161J-102	RESISTOR	1KΩ,1/6W
R402	QVZ3518-152AZ	V RESISTOR, CNR NC BAL-1	1.5KΩ
R403	QRD161J-102	RESISTOR	1KΩ,1/6W
R404	QRD161J-102	RESISTOR	1KΩ,1/6W
R405	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R406	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R407	QRD161J-102	RESISTOR	1KΩ,1/6W
R408	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R409	ERT-D2FGL142S	THERMISTOR	
R410	QRD161J-331	RESISTOR	330Ω,1/6W
R411	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R412	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R413	QRD161J-821	RESISTOR	820Ω,1/6W
R414	QRD161J-471	RESISTOR	470Ω,1/6W
R415	QRD161J-102	RESISTOR	1KΩ,1/6W
R416	QVZ3518-681AZ	V RESISTOR,Y NC BALANCE	680Ω
R417	QRD161J-331	RESISTOR	330Ω,1/6W
R418	QRD161J-471	RESISTOR	470Ω,1/6W
R419	QRD161J-471	RESISTOR	470Ω,1/6W
R420	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R421	QRD161J-102	RESISTOR	1KΩ,1/6W
R422	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R423	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R424	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R425	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R426	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R427	QRD161J-332	RESISTOR	3.3KΩ,1/6W
R428	QVZ3518-151A	V RESISTOR, AGC LEVEL-3	150Ω

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R429	QRD161J-241	RESISTOR	240Ω,1/6W
R430	QRD161J-242	RESISTOR	2.4KΩ,1/6W
R431	QRD161J-391	RESISTOR	390Ω,1/6W
R432	QRD161J-820	RESISTOR	82Ω,1/6W
R433	QRD161J-102	RESISTOR	1KΩ,1/6W
R434	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R435	QRD161J-224	RESISTOR	220KΩ,1/6W
R436	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R438	QRD161J-563	RESISTOR	56KΩ,1/6W
R439	QRD161J-563	RESISTOR	56KΩ,1/6W
R440	QRD161J-332	RESISTOR	3.3KΩ,1/6W
R441	QRD161J-561	RESISTOR	560Ω,1/6W
R442	QRD161J-223	RESISTOR	22KΩ,1/6W
R443	QRD161J-473	RESISTOR	47KΩ,1/6W
R444	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R445	QRD161J-333	RESISTOR	33KΩ,1/6W
R446	QRD161J-123	RESISTOR	12KΩ,1/6W
R447	QRD161J-102	RESISTOR	1KΩ,1/6W
R448	QRD161J-473	RESISTOR	47KΩ,1/6W
R449	QRD161J-102	RESISTOR	1KΩ,1/6W
R451	QRD161J-223	RESISTOR	22KΩ,1/6W
R452	QRD161J-223	RESISTOR	22KΩ,1/6W
R453	QRD161J-223	RESISTOR	22KΩ,1/6W
R454	QVZ3518-223A	V RESISTOR, S PB Y LEVEL	22KΩ
R455	QRD161J-333	RESISTOR	33KΩ,1/6W
R456	QVZ3518-332AZ	V RESISTOR, N PB Y LEVEL	3.3KΩ
R457	QRD161J-562	RESISTOR	5.6KΩ,1/6W
R458	QRD161J-223	RESISTOR	22KΩ,1/6W
R460	QRD161J-100	RESISTOR	10Ω,1/6W
R461	ERSA39J-102	RESISTOR	1KΩ,1/6W
R601	QRD161J-122	RESISTOR	1.2KΩ,1/6W
R602	QRD161J-393	RESISTOR	39KΩ,1/6W
R603	QRD161J-102	RESISTOR	1KΩ,1/6W
R604	QRD161J-681	RESISTOR	680Ω,1/6W
R60	QRD161J-333	RESISTOR	33KΩ,1/6W
R606	QRD161J-223	RESISTOR	22KΩ,1/6W
R613	QRD161J-102	RESISTOR	1KΩ,1/6W
R614	QRD161J-102	RESISTOR	1KΩ,1/6W
R615	QRD161J-102	RESISTOR	1KΩ,1/6W
R616	QRD161J-102	RESISTOR	1KΩ,1/6W
R617	QRD161J-473	RESISTOR	47KΩ,1/6W
R618	QRD161J-682	RESISTOR	6.8KΩ,1/6W
R619	QRD161J-104	RESISTOR	100KΩ,1/6W
R620	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R621	QVZ3518-102AZ	V RESISTOR, COLOR COMB GAIN-3	1KΩ
R622	QRD161J-221	RESISTOR	220Ω,1/6W
R623	QRD161J-103	RESISTOR	10KΩ,1/6W
R624	QRD161J-103	RESISTOR	10KΩ,1/6W
R626	QRD161J-223	RESISTOR	22KΩ,1/6W
R627	QRD161J-273	RESISTOR	27KΩ,1/6W
R628	QRD161J-102	RESISTOR	1KΩ,1/6W
R629	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R630	QRD161J-102	RESISTOR	1KΩ,1/6W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R631	QRD161J-182	RESISTOR	1.8KΩ,1/6W
R632	QRD161J-561	RESISTOR	560Ω,1/6W
R633	QRD161J-561	RESISTOR	560Ω,1/6W
R634	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R635	QRD161J-561	RESISTOR	560Ω,1/6W
R636	QRD161J-103	RESISTOR	10KΩ,1/6W
R637	QRD161J-102	RESISTOR	1KΩ,1/6W
R638	QRD161J-102	RESISTOR	1KΩ,1/6W
R639	QRD161J-332	RESISTOR	3.3KΩ,1/6W
R640	QRD161J-102	RESISTOR	1KΩ,1/6W
R641	QRD161J-103	RESISTOR	10KΩ,1/6W
R642	QRD161J-102	RESISTOR	1KΩ,1/6W
R643	QRD161J-222	RESISTOR	2.2KΩ,1/6W
R644	QRD161J-103	RESISTOR	10KΩ,1/6W
R645	QRD161J-103	RESISTOR	10KΩ,1/6W
R646	QVZ3518-152AZ	V RESISTOR, CNR NC BAL-2	1.5KΩ
R647	QRD161J-393	RESISTOR	39KΩ,1/6W
R648	QRD161J-103	RESISTOR	10KΩ,1/6W
R649	QRD161J-393	RESISTOR	39KΩ,1/6W
R650	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R651	QRD161J-331	RESISTOR	330Ω,1/6W
R652	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R653	QRD161J-102	RESISTOR	1KΩ,1/6W
R654	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R655	QRD161J-392	RESISTOR	3.9KΩ,1/6W
R656	QRD161J-122	RESISTOR	1.2KΩ,1/6W
R657	QRD161J-272	RESISTOR	2.7KΩ,1/6W
R658	QRD161J-475	RESISTOR	4.7MΩ,1/6W
R659	QRD161J-475	RESISTOR	4.7MΩ,1/6W
R901	QRD161J-563	RESISTOR	56KΩ,1/6W
R902	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R903	QRD161J-103	RESISTOR	10KΩ,1/6W
R904	QRD161J-123	RESISTOR	12KΩ,1/6W
R905	QRD161J-152	RESISTOR	1.5KΩ,1/6W
R906	QRD161J-271	RESISTOR	270Ω,1/6W
R907	QRD161J-103	RESISTOR	10KΩ,1/6W
R908	QRD161J-223	RESISTOR	22KΩ,1/6W
R909	QRD161J-104	RESISTOR	100KΩ,1/6W
R910	QRD161J-471	RESISTOR	470Ω,1/6W
R911	QRD161J-221	RESISTOR	220Ω,1/6W
R912	QRD161J-102	RESISTOR	1KΩ,1/6W
R913	QRD161J-103	RESISTOR	10KΩ,1/6W
R914	QRD161J-103	RESISTOR	10KΩ,1/6W
R915	QRD161J-103	RESISTOR	10KΩ,1/6W
R916	QRD161J-681	RESISTOR	680Ω,1/6W
R917	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R918	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R919	QRD161J-681	RESISTOR	680Ω,1/6W
R920	QRD161J-102	RESISTOR	1KΩ,1/6W
R921	QRD161J-103	RESISTOR	10KΩ,1/6W
R922	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R923	QRD161J-472	RESISTOR	4.7KΩ,1/6W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R924	QRD161J-561	RESISTOR	560Ω,1/6W
	R925	QRD161J-621	RESISTOR	620Ω,1/6W
	R926	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R927	QRD161J-202	RESISTOR	2KΩ,1/6W
	R928	QRD161J-333	RESISTOR	33KΩ,1/6W
	R929	QRD161J-362	RESISTOR	3.6KΩ,1/6W
	R930	QRD161J-332	RESISTOR	3.3KΩ,1/6W
	R931	QRD161J-182	RESISTOR	1.8KΩ,1/6W
	R932	QRD161J-103	RESISTOR	10KΩ,1/6W
	R933	QRD161J-103	RESISTOR	10KΩ,1/6W
	R934	QRD161J-103	RESISTOR	10KΩ,1/6W
	R935	QRD161J-103	RESISTOR	10KΩ,1/6W
	R936	QRD161J-103	RESISTOR	10KΩ,1/6W
	R937	QRD161J-102	RESISTOR	1KΩ,1/6W
	R938	QRD161J-331	RESISTOR	330Ω,1/6W
	R939	QRD161J-272	RESISTOR	2.7KΩ,1/6W
	R940	QRD161J-471	RESISTOR	470Ω,1/6W
	R941	QRD161J-333	RESISTOR	33KΩ,1/6W
	R942	QRD161J-132	RESISTOR	1.3KΩ,1/6W
	R943	QRD161J-103	RESISTOR	10KΩ,1/6W
	R944	QRD161J-225	RESISTOR	2.2MΩ,1/6W
	R945	QRD161J-223	RESISTOR	22KΩ,1/6W
	R946	QRD161J-392	RESISTOR	3.9KΩ,1/6W
	R947	QRD161J-560	RESISTOR	56Ω,1/6W
	R948	QRD161J-182	RESISTOR	1.8KΩ,1/6W
	R949	QRD161J-471	RESISTOR	470Ω,1/6W
	R950	QRD161J-681	RESISTOR	680Ω,1/6W
	R951	QRD161J-271	RESISTOR	270Ω,1/6W
	R952	QRD161J-102	RESISTOR	1KΩ,1/6W
	R953	QRD161J-561	RESISTOR	560Ω,1/6W
	R954	QRD161J-103	RESISTOR	10KΩ,1/6W
	R955	QRD161J-273	RESISTOR	27KΩ,1/6W
	R956	QVZ3518-682A	V RESISTOR, AGC LEVEL-1	6.8KΩ
	R957	QRD161J-302	RESISTOR	3KΩ,1/6W
	R958	QRD161J-242	RESISTOR	2.4KΩ,1/6W
	R959	QRD161J-562	RESISTOR	5.6KΩ,1/6W
	R960	QRD161J-562	RESISTOR	5.6KΩ,1/6W
	R961	QRD161J-331	RESISTOR	330Ω,1/6W
	R962	QRD161J-331	RESISTOR	330Ω,1/6W
	R963	QRD161J-561	RESISTOR	560Ω,1/6W
	R964	QRD161J-151	RESISTOR	150Ω,1/6W
	C1	QEN61CM-106	NP E CAPACITOR	10μF,16V
	C2	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C4	QETC1CM-106	E CAPACITOR	10μF,16V
	C5	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C6	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C7	QETC0JM-336	E CAPACITOR	33μF,6.3V
	C8	QETC1CM-226	E CAPACITOR	22μF,16V
	C9	QETC1CM-106	E CAPACITOR	10μF,16V
	C10	QETC1CM-106	E CAPACITOR	10μF,16V
	C11	QETC0JM-108	E CAPACITOR	1000μF,6.3V
	C12	QETC0JM-108	E CAPACITOR	1000μF,6.3V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C13	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C14	QCSB1HJ-150	CAPACITOR	15PF,50V
	C15	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C16	QETC1CM-107	E CAPACITOR	100μF,16V
	C17	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C18	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C19	QCBB1HJ-820	CAPACITOR	82PF,50V
	C20	QCBB1HJ-391	CAPACITOR	390PF,50V
	C21	QCBB1HJ-681	CAPACITOR	680PF,50V
	C22	QCT25CH-330	CAPACITOR	33PF,50V
	C23	QCSB1HJ-220	CAPACITOR	22PF,50V
	C24	QCS31HJ-9R0	CAPACITOR	9PF,50V
	C25	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C26	QCSB1HJ-200	CAPACITOR	20PF,50V
	C27	QCSB1HJ-510	CAPACITOR	51PF,50V
	C28	QETB0JM-336	E CAPACITOR	33μF,6.3V
	C29	QETC1HM-474	E CAPACITOR	0.47μF,50V
	C30	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C31	QCXB1CN-682	CAPACITOR	0.0068μF,16V
	C32	QETC0JM-337	E CAPACITOR	330μF,6.3V
	C33	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C34	QETC1CM-226	E CAPACITOR	22μF,16V
	C35	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C36	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C37	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C38	QETC1HM-474	E CAPACITOR	0.47μF,50V
	C39	QETC1HM-474	E CAPACITOR	0.47μF,50V
	C40	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C41	QCXB1CN-682	CAPACITOR	0.0068μF,16V
	C42	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C43	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C44	QCSB1HJ-560	CAPACITOR	56PF,50V
	C45	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C46	QCBB1HJ-221	CAPACITOR	220PF,50V
	C47	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C48	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C49	QETC0JM-336	E CAPACITOR	33μF,6.3V
	C201	QCSB1HK-4R7	CAPACITOR	4.7PF,50V
	C202	QCSB1HK-4R7	CAPACITOR	4.7PF,50V
	C203	QETC1CM-106	E CAPACITOR	10μF,16V
	C204	QCBB1HJ-102	CAPACITOR	0.001μF,50V
	C205	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C206	QETC1HM-105	E CAPACITOR	1μF,50V
	C207	QETC1CM-336	E CAPACITOR	33μF,16V
	C208	QCBB1HJ-102	CAPACITOR	0.001μF,50V
	C209	QETC1HM-335	E CAPACITOR	3.3μF,50V
	C210	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C211	QCC11CJ-104	CAPACITOR	0.1μF,16V
	C212	QETC0JM-107	E CAPACITOR	100μF,6.3V
	C213	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C214	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C227	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C228	QETC1CM-106	E CAPACITOR	10μF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C229	QETC1CM-106	E CAPACITOR	10 μ F,16V
C230	QCBB1HJ-820	CAPACITOR	82PF,50V
C231	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C232	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C233	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C234	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C235	QCT25CH-820	CAPACITOR	82PF,50V
C236	QCT25CH-820	CAPACITOR	82PF,50V
C237	QCT05CH-180	CAPACITOR	18PF,50V
	or QCT25CH-180	CAPACITOR	18PF,50V
C238	QCT05CH-470	CAPACITOR	47PF,50V
	or QCT25CH-470	CAPACITOR	47PF,50V
C239	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C240	QCT05CH-180	CAPACITOR	18PF,50V
	or QCT25CH-180	CAPACITOR	18PF,50V
C241	QCT25CH-820	CAPACITOR	82PF,50V
C242	QCBB1HJ-221	CAPACITOR	220PF,50V
C243	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C244	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C245	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C246	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C247	QCBB1HJ-331	CAPACITOR	330PF,50V
C248	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C249	QCT05CH-470	CAPACITOR	47PF,50V
	or QCT25CH-470	CAPACITOR	47PF,50V
C250	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C251	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C252	QCFB1EZ-223	CAPACITOR	0.022 μ F,25V
C253	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C254	QCFB1EZ-223	CAPACITOR	0.022 μ F,25V
C255	QCFB1EZ-223	CAPACITOR	0.022 μ F,25V
C256	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C257	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C258	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C259	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C260	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C261	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C262	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C263	QCBB1HJ-820	CAPACITOR	82PF,50V
C264	QETC1HM-476	E CAPACITOR	47 μ F,50V
C265	QCSB1HJ-150	CAPACITOR	15PF,50V
C266	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C268	QCSB1HJ-270	CAPACITOR	27PF,50V
C401	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C402	QCSB1HJ-220	CAPACITOR	22PF,50V
C403	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C404	QCSB1HJ-120	CAPACITOR	12PF,50V
C405	QETC1HM-104	E CAPACITOR	0.1 μ F,50V
C406	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C407	QETC0JM-476	E CAPACITOR	47 μ F,6.3V
C408	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C409	QETC1CM-106	E CAPACITOR	10 μ F,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C410	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C411	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C412	QETC1CM-106	E CAPACITOR	10 μ F,16V
C413	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C414	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C415	QCXB1CN-472	CAPACITOR	0.0047 μ F,16V
C416	QETC1HM-474	E CAPACITOR	0.47 μ F,50V
C417	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C418	QETB1HM-105	E CAPACITOR	1 μ F,50V
C419	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C420	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C421	QETC0JM-476	E CAPACITOR	47 μ F,6.3V
C422	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C423	QETC0JM-476	E CAPACITOR	47 μ F,6.3V
C425	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C426	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C427	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C428	QETC1CM-226	E CAPACITOR	22 μ F,16V
C429	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C430	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C431	QETC1HM-225	E CAPACITOR	2.2 μ F,50V
C432	QETC1HM-225	E CAPACITOR	2.2 μ F,50V
C433	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C434	QETC0JM-476	E CAPACITOR	47 μ F,6.3V
C436	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C437	QCSB1HJ-270	CAPACITOR	27PF,50V
C438	QCSB1HK-4R7	CAPACITOR	4.7PF,50V
C439	QCSB1HJ-220	CAPACITOR	22PF,50V
C440	QCSB1HJ-160	CAPACITOR	16PF,50V
C441	QCSB1HJ-270	CAPACITOR	27PF,50V
C442	QCSB1HJ-470	CAPACITOR	47PF,50V
C443	QCC31CJ-473	CAPACITOR	0.047 μ F,16V
C444	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C445	QETC0JM-336	E CAPACITOR	33 μ F,6.3V
C446	QENC1AM-226	NP E CAPACITOR	22 μ F,10V
C447	QETC1CM-106	E CAPACITOR	10 μ F,16V
C448	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C449	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C450	QETC1CM-476	E CAPACITOR	47 μ F,16V
C451	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C452	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C453	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C601	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C605	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C606	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C607	QETC1HM-104	E CAPACITOR	0.1 μ F,50V
C608	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C609	QETC1HM-224	E CAPACITOR	0.22 μ F,50V
C610	QCVB1CN-103	CAPACITOR	0.01 μ F,16V
C611	QCC11CJ-104	CAPACITOR	0.1 μ F,16V
C612	QCBB1HJ-471	CAPACITOR	470PF,50V
C613	QCBB1HJ-561	CAPACITOR	560PF,50V
C614	QETC1HM-474	E CAPACITOR	0.47 μ F,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C615	QETC1HM-225	E CAPACITOR	2.2μF,50V
C616	QCXB1CM-682	CAPACITOR	0.0068μF,16V
C617	QCC11CJ-104	CAPACITOR	0.1μF,16V
C618	QETC0JM-107	E CAPACITOR	100μF,6.3V
C619	QCBB1HJ-102	CAPACITOR	0.001μF,50V
C620	QCBB1HJ-101	CAPACITOR	100PF,50V
C621	QCBB1HJ-101	CAPACITOR	100PF,50V
C622	QCVB1CN-103	CAPACITOR	0.01μF,16V
C623	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C624	QETC0JM-107	E CAPACITOR	100μF,6.3V
C625	QCC31EJ-104	CAPACITOR	0.1μF,25V
C626	QCVB1CN-103	CAPACITOR	0.01μF,16V
C627	QCC31EJ-104	CAPACITOR	0.1μF,25V
C628	QETC1CM-106	E CAPACITOR	10μF,16V
C629	QCVB1CN-103	CAPACITOR	0.01μF,16V
C630	QCVB1CN-103	CAPACITOR	0.01μF,16V
C631	QCBB1HJ-102	CAPACITOR	0.001μF,50V
C632	QCVB1CN-103	CAPACITOR	0.01μF,16V
C633	QCC31CJ-104	CAPACITOR	0.1μF,16V
C635	QCSB1HJ-330	CAPACITOR	33PF,50V
C636	QCC31CJ-473	CAPACITOR	0.047μF,16V
C637	QCVB1CN-103	CAPACITOR	0.01μF,16V
C638	QCBB1HJ-181	CAPACITOR	180PF,50V
C639	QCT30CH-200	CAPACITOR	20PF,50V
C640	QCBB1HJ-101	CAPACITOR	100PF,50V
C641	QETC1CM-106	E CAPACITOR	10μF,16V
C642	QCVB1CN-103	CAPACITOR	0.01μF,16V
C643	QETC1HM-105	E CAPACITOR	1μF,50V
C644	QCVB1CN-103	CAPACITOR	0.01μF,16V
C645	QCBB1HJ-221	CAPACITOR	220PF,50V
C646	QETC1HM-104	E CAPACITOR	0.1μF,50V
C647	QETC1HM-225	E CAPACITOR	2.2μF,50V
C649	QCXB1CM-392	CAPACITOR	0.0039μF,16V
C650	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C651	QCT30CH-120	CAPACITOR	12PF,50V
C901	QETC1HM-334	E CAPACITOR	0.33μF,50V
C902	QCVB1CN-103	CAPACITOR	0.01μF,16V
C903	QCSB1HJ-220	CAPACITOR	22PF,50V
C904	QCXB1CN-152	CAPACITOR	0.0015μF,16V
C905	QETC1CM-106	E CAPACITOR	10μF,16V
C906	QETC1HM-105	E CAPACITOR	1μF,50V
C907	QCVB1CN-103	CAPACITOR	0.01μF,16V
C908	QFN31HJ-562	M CAPACITOR	0.0056μF,50V
C909	QETC1HM-335	E CAPACITOR	3.3μF,50V
C910	QETC1CM-106	E CAPACITOR	10μF,16V
C911	QCVB1CN-103	CAPACITOR	0.01μF,16V
C912	QCBB1HJ-181	CAPACITOR	180PF,50V
C913	QAT3123-300	TRIMMER CAPACITOR, COLOR BURST	30PF
C914	QCSB1HJ-220	CAPACITOR	22PF,50V
C915	QEP41HM-105	NP E CAPACITOR	1μF,50V
C916	QCSB1HJ-270	CAPACITOR	27PF,50V
C917	QCSB1HJ-270	CAPACITOR	27PF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C918	QCSB1HJ-220	CAPACITOR	22PF,50V
C919	QCVB1CN-103	CAPACITOR	0.01μF,16V
C920	QCSB1HJ-680	CAPACITOR	68PF,50V
C921	QAT3123-450	TRIMMER CAPACITOR, DOT CLOCK	45PF
C922	QCT30CH-150	CAPACITOR	15PF,50V
C923	QCSB1HK-3R3	CAPACITOR	3.3PF,50V
C924	QETC0JM-476	E CAPACITOR	47μF,6.3V
C925	QCVB1CN-103	CAPACITOR	0.01μF,16V
C926	QCSB1HJ-680	CAPACITOR	68PF,50V
C927	QCVB1CN-103	CAPACITOR	0.01μF,16V
C928	QETC1CM-476	E CAPACITOR	47μF,16V
C929	QETC1HM-226	E CAPACITOR	22μF,50V
C930	QETC1HM-475	E CAPACITOR	4.7μF,50V
C931	QETC0JM-476	E CAPACITOR	47μF,6.3V
C932	QCSB1HJ-150	CAPACITOR	15PF,50V
C933	QCVB1CN-103	CAPACITOR	0.01μF,16V
C934	QCSB1HK-4R7	CAPACITOR	4.7PF,50V
C935	QCSB1HJ-560	CAPACITOR	56PF,50V
L1	PU48530-101K	COIL	100μH
L2	PU48530-101K	COIL	100μH
L3	PU59988-820J	COIL	82μH
L4	PU59988-101J	COIL	100μH
L5	PU59988-390J	COIL	39μH
L6	PU48530-101K	COIL	100μH
L7	PU59988-560J	COIL	56μH
L8	PU59988-121J	COIL	120μH
L9	PU48530-101K	COIL	100μH
L10	PU59988-560J	COIL	56μH
L11	PU59988-101J	COIL	100μH
L12	PU59988-680J	COIL	68μH
L201	PU59152-101J	COIL	100μH
L202	PU59988-330J	COIL	33μH
L205	PU48530-101K	COIL	100μH
L206	PU59988-180J	COIL	18μH
L207	PU59988-101J	COIL	100μH
L208	PU59988-101J	COIL	100μH
L209	PU59988-180J	COIL	18μH
L210	PU59988-100J	COIL	10μH
L211	PU48530-101K	COIL	100μH
L212	PU48530-101K	COIL	100μH
L213	PU48530-101K	COIL	100μH
L401	PU59988-330J	COIL	
L402	PU48530-101K	COIL	100μH
L403	PU48530-101K	COIL	100μH
L404	PU59988-680J	COIL	68μH
L405	PU48530-101K	COIL	100μH
L406	PU59153-101K	COIL	100μH
L407	PU48530-101K	COIL	100μH
L408	PU48530-101K	COIL	100μH
L409	PU59988-100J	COIL	10μH
L410	PU59988-181J	COIL	180μH
L411	PU59988-820J	COIL	82μH
L412	PU59988-680J	COIL	68μH

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L413	PU48530-471J	COIL	470μH
	L414	PU59988-121J	COIL	120μH
	L601	PELN0580	COIL, COLOR COMB PHASE-3	
	L602	PU48530-101K	COIL	100μH
	L604	PU59988-100J	COIL	10μH
	L605	PU48530-471J	COIL	470μH
	L606	PU48530-222J	COIL	2.2mH
	L607	PU48530-561J	COIL	560μH
	L901	PU48530-101K	COIL	100μH
	L902	PU58333-220J	COIL	22μH
	L903	PU59988-220J	COIL	22μH
	L904	PU59988-220J	COIL	22μH
	L905	PU59988-8R2J	COIL	8.2μH
	L906	PU48530-101K	COIL	100μH
	L907	PU48530-101K	COIL	100μH
	EQ201	PELN0576	EQUALIZER	
	LPF201	PU61052	LOW PASS FILTER	
	LPF202	PU61053	LOW PASS FILTER	
	LPF401	PU60055	LOW PASS FILTER	
	LPF402	PELN0336-01-01	LOW PASS FILTER	
	LPF403	PELN0409	LOW PASS FILTER	
	LPF601	PELN0574	LOW PASS FILTER	
	LPF602	PU61057	LOW PASS FILTER	
	BPF401	PELN0343	BAND PASS FILTER	
	BPF601	PU61058	BAND PASS FILTER	
⚠	CF901	PU60086	RESONATOR	
	DL601	PU60227	1H DELAY LINE	
⚠	X601	PEVB0347	CRYSTAL RESONATOR	
⚠	X901	PU60747	CRYSTAL RESONATOR	
	T601	PELN0575	TANK FILTER	
	SCW1	SDSF3008Z	SCREW	
⚠	TB1	PQ21280-3.	TERMINAL BOARD (1)	
	TP1	PU57545	TEST PIN, X31	
	JA1	PU60613	PIN JACK	
	JA2	PU61048	S.CONNECT	
	CN2	PU59555-2	CONNECTOR	
	CN3	PU59555-6	CONNECTOR	
	CN4	PU59555-2	CONNECTOR	
	CN6	PU60417-9	CONNECTOR	
	CN7	PU59555-3	CONNECTOR	
	CN9	PU60417-3	CONNECTOR	
	CN10	PU59555-7	CONNECTOR	
	CN11	PU60417-4	CONNECTOR	
	CN12	PU59555-5	CONNECTOR	
	CN13	PU60417-3	CONNECTOR	
	CN14	PU59555-2	CONNECTOR	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	CN15	PU59555-2	CONNECTOR
	CN602	PU59555-3	CONNECTOR
	CN901	PU60417-6	CONNECTOR

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TUNER/IF BOARD ASSEMBLY <08>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB10524B	TUNER UNIT BOARD ASSEMBLY	
⚠	RF1	PERF0064	RF CONVERTER	
⚠	TNR1	PERF0109	TUNER	
	IC1	LA7577V	IC	
	Q1	2SD1450S,T	TRANSISTOR	
		or 2SD1468S(RS)	TRANSISTOR	
	Q2	2SC1317(RS)	TRANSISTOR	
		or 2SC1318(RS)	TRANSISTOR	
	Q3	2SC1317(RS)	TRANSISTOR	
		or 2SC1318(RS)	TRANSISTOR	
	Q4	2SC4081(RS)	TRANSISTOR	
	Q6	2SC4081(S)	TRANSISTOR	
	Q7	2SA1576(S)	TRANSISTOR	
	Q8	2SA1576(S)	TRANSISTOR	
	Q9	2SC4081(S)	TRANSISTOR	
	Q10	2SC4081(S)	TRANSISTOR	
	Q11	DTA114EU	TRANSISTOR	
	D1	E-452-2	DIODE	
	D2	HZ30-2L	ZENER DIODE	
	D3	MTZ11B	ZENER DIODE	
	D4	MTZ10B	ZENER DIODE	
	D7	1SS133	DIODE	
	D8	1SS133	DIODE	
	R1	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R2	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R3	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
	R5	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R6	QRSA08J-750YN	RESISTOR	75Ω,1/10W
	R7	QRSA08J-680YN	RESISTOR	68Ω,1/10W
	R8	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R9	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
	R11	QRSA08J-271YN	RESISTOR	270Ω,1/10W
	R13	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R14	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R15	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R16	QVZ3518-153AZ	V RESISTOR, RF AGC	15KΩ
	R17	QRSA08J-123YN	RESISTOR	12KΩ,1/10W
	R18	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
	R19	QRSA08J-824YN	RESISTOR	820KΩ,1/10W
	R20	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
	R21	QRSA08J-513YN	RESISTOR	51KΩ,1/10W
	R22	QRSA08J-513YN	RESISTOR	51KΩ,1/10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R23	QRSA08J-820YN	RESISTOR	82Ω,1/10W
	R24	QRSA08J-821YN	RESISTOR	820Ω,1/10W
	R25	QRSA08J-301YN	RESISTOR	300Ω,1/10W
	R26	QRSA08J-182YN	RESISTOR	1.8KΩ,1/10W
	R28	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R31	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R33	QRSA08J-681YN	RESISTOR	680Ω,1/10W
	R34	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
	R35	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R36	QRSA08J-271YN	RESISTOR	270Ω,1/10W
	R41	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R42	QRSA08J-184YN	RESISTOR	180KΩ,1/10W
	R43	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R44	QRSA08J-223YN	RESISTOR	22KΩ,1/10W
	R45	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R46	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
	R47	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
	R48	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R49	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
	R50	QRSA08J-154YN	RESISTOR	150KΩ,1/10W
	R51	QRSA08J-563YN	RESISTOR	56KΩ,1/10W
	R52	QRSA08J-154YN	RESISTOR	150KΩ,1/10W
	R53	QRSA08J-123YN	RESISTOR	12KΩ,1/10W
	R54	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R55	QRSA08J-123YN	RESISTOR	12KΩ,1/10W
	R56	QRSA08J-151YN	RESISTOR	150Ω,1/10W
	R57	QRSA08J-182YN	RESISTOR	1.8KΩ,1/10W
	R58	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R61	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
	R62	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
	R75	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R76	QRSA08J-271YN	RESISTOR	270Ω,1/10W
	C1	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C2	QETF1CM-476	E CAPACITOR	47μF,16V
	C3	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C4	QETF1HM-106	E CAPACITOR	10μF,50V
	C11	QETF1CM-476	E CAPACITOR	47μF,16V
	C13	QEKF1EM-475	E CAPACITOR	4.7μF,25V
	C14	QETF1CM-476	E CAPACITOR	47μF,16V
	C15	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C16	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C17	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C18	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C19	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C20	QCTA1CH-331	CAPACITOR	330PF,16V
	C21	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C22	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C23	QETF1CM-476	E CAPACITOR	47μF,16V
	C24	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C25	QCTA1CH-150	CAPACITOR	15PF,16V
	C26	QFV71HJ-683	TF CAPACITOR	0.068μF,50V
	C27	QCYA1HK-102	CAPACITOR	0.001μF,50V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C28	QFV71HJ-154	TF CAPACITOR	0.15μF,50V
	C30	QEKF1HM-474	E CAPACITOR	0.47μF,50V
	C31	QCTA1CH-470	CAPACITOR	47PF,16V
	C32	QCTA1CH-390	CAPACITOR	39PF,16V
	C34	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C38	QETF1CM-476	E CAPACITOR	47μF,16V
	C40	QEKF1HM-224	E CAPACITOR	0.22μF,50V
	C41	QEKF1HM-104	E CAPACITOR	0.1μF,50V
	C43	QCYA1HK-102	CAPACITOR	0.001μF,50V
	C44	QCTA1CH-101	CAPACITOR	100PF,16V
	C45	QEKF1CM-106	E CAPACITOR	10μF,16V
	C46	QETF1CM-476	E CAPACITOR	47μF,16V
	C48	QCYA1HK-103	CAPACITOR	0.01μF,50V
	C66	QETF1CM-476	E CAPACITOR	47μF,16V
	C91	QETF1CM-476	E CAPACITOR	47μF,16V
	L1	PU60025-R82	COIL	0.82μH
	L2	PU60025-1R0	COIL	1μH
	L4	PU60025-R91S	COIL	0.92μH
	L6	PU59152-270J	COIL	27μH
	L7	PU59152-180J	COIL	18μH
	L11	PU59152-R22J	COIL	0.22μH
	CF1	PU59039	CERAMIC FILTER	
	CF2	PU60774	CERAMIC FILTER	
	SAW1	PEVB0419	SAW FILTER	
	SAW2	PEVB0420	SAW FILTER	
	T1	PELN0403-02	IF TRANSFORMER, SOUND DETECT	
	T2	PELN0401	IF TRANSFORMER, AFC	
	T3	PELN0402	IF TRANSFORMER, VCO	
	BKT1	PQ33986-1-2	BRACKET(PWB)	
	ETH1	PQ45218	EARTH PLATE	
	SCW1	SDST2606Z	SCREW	
	SCW2	SDST3006Z	SCREW	
	SCW3	SDSF2608Z	SCREW	
	TB1	PQ21282-2	TERMINAL BOARD (3)	
	WR1	PW30402-BB06M	COAXIAL ASSY	
	CN1	PU59555-2	CONNECTOR	
	CN2	PEMC0846-010	CONNECTOR (BOARD TO BOARD)	
	CN3	PEMC0846-005	CONNECTOR (BOARD TO BOARD)	
	CN4	PU59555-4	CONNECTOR	
	CN5	PU59555-2	CONNECTOR	
	CN6	PB10531B	DEMOD BOARD ASSY	
	CN7	PU59555-2	CONNECTOR	

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A/C HEAD BOARD ASSEMBLY <12>

	PWB1	PB40046-01-02	AUDIO/CONTROL HEAD BOARD	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
CN1	PU58844-104	CONNECTOR	
CN2	PU58844-103	CONNECTOR	

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DEMODULATOR BOARD ASSEMBLY <14>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PB10531B	DEMOD BOARD ASSY	
IC201	UPC1871CU	IC	
Q202	DTC114WU	TRANSISTOR	
Q203	DTC114WU	TRANSISTOR	
R201	QVZ3525-223	V RESISTOR,FILTER	22KΩ
R202	QVZ3518-472	V RESISTOR,SEPA-1	4.7KΩ
R203	QVZ3518-472A	V RESISTOR,SEPA-2	4.7KΩ
R204	QVZ3525-473	V RESISTOR,STEREO VCO	47KΩ
R207	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
R208	QRSA08J-104YN	RESISTOR	100KΩ,1/10W
R209	QRSA08J-683YN	RESISTOR	68KΩ,1/10W
R210	QRSA08J-273YN	RESISTOR	27KΩ,1/10W
R211	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R213	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R214	QRSA08J-563YN	RESISTOR	56KΩ,1/10W
R215	QRSA08J-563YN	RESISTOR	56KΩ,1/10W
R216	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R217	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R218	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R220	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
R221	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
R222	QRSA08J-823YN	RESISTOR	82KΩ,1/10W
R223	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R236	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R237	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
C201	QEKF1EM-475	E CAPACITOR	4.7μF,25V
C202	QEKF1HM-474	E CAPACITOR	0.47μF,50V
C203	QETF1CM-476	E CAPACITOR	47μF,16V
C204	QEKF1HM-105	E CAPACITOR	1μF,50V
C205	QEKF1HM-474	E CAPACITOR	0.47μF,50V
C206	QEKF1HM-105	E CAPACITOR	1μF,50V
C207	QEKF1HM-474	E CAPACITOR	0.47μF,50V
C208	QEKF1HM-474	E CAPACITOR	0.47μF,50V
C209	QEKF1HM-105	E CAPACITOR	1μF,50V
C210	QEKF1EM-475	E CAPACITOR	4.7μF,25V
C211	QETF1CM-226	E CAPACITOR	22μF,16V
C212	QEKF1CM-106	E CAPACITOR	10μF,16V
C213	QEKF1CM-106	E CAPACITOR	10μF,16V
C214	QEK41HM-335	E CAPACITOR	3.3μF,50V
C216	QEE81CJ-335	TANTAL CAPACITOR	3.3μF,16V
C217	QEE81CJ-106	TANTAL CAPACITOR	10μF,10V
C231	QCYA1HK-103	CAPACITOR	0.01μF,50V
C232	QCYA1HK-103	CAPACITOR	0.01μF,50V
C233	QCYA1HK-103	CAPACITOR	0.01μF,50V
C234	QCYA1EK-473	CAPACITOR	0.047μF,25V
C235	QCYA1HK-103	CAPACITOR	0.01μF,50V
C236	QCYA1EK-104	CAPACITOR	0.1μF,25V
CN201	PEMC0778-110	PIN HEADER	

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TIMER BOARD ASSEMBLY <20>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PB10686A2-01	TIMER BOARD ASSEMBLY	
IC101	HD404720A24S	IC	
IC102	CAT93C46P	IC	
	or 93C46/P	IC	
Q101	2SC3311A(RS)	TRANSISTOR	
	or 2SC536SPA(FG)	TRANSISTOR	
	or 2SC1740S(RS)	TRANSISTOR	
	or 2SC3199(GB)-TJK	TRANSISTOR	
Q102	2SC3311A(RS)	TRANSISTOR	
	or 2SC536SPA(FG)	TRANSISTOR	
	or 2SC1740S(RS)	TRANSISTOR	
	or 2SC3199(GB)-TJK	TRANSISTOR	
D101	RD7.5EB2	ZENER DIODE	
D102	11ES2	DIODE	
D103	LTZ-MR15	DIODE	
D104	1SS132	DIODE	
D105	RD9.1ES-T1B2	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
	or HZS9.1EB2TJ	ZENER DIODE	
D106	11ES2	DIODE	
D107	1SS133	DIODE	
D108	1SS133	DIODE	
R101	QRD161J-333	RESISTOR	33KΩ,1/6W
R102	QRD161J-123	RESISTOR	12KΩ,1/6W
R103	QRD161J-104	RESISTOR	100KΩ,1/6W
R104	QRD161J-682	RESISTOR	6.8KΩ,1/6W
R105	QRD161J-103	RESISTOR	10KΩ,1/6W
R106	QRD161J-103	RESISTOR	10KΩ,1/6W
R107	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R108	QRD161J-224	RESISTOR	220KΩ,1/6W
R109	QRD161J-333	RESISTOR	33KΩ,1/6W
R110	QRD161J-333	RESISTOR	33KΩ,1/6W
R111	QRD161J-333	RESISTOR	33KΩ,1/6W
R112	QRD161J-333	RESISTOR	33KΩ,1/6W
R113	QRD161J-471	RESISTOR	470Ω,1/6W
R114	QRD161J-102	RESISTOR	1KΩ,1/6W
R115	QRD161J-102	RESISTOR	1KΩ,1/6W
R117	QRD161J-105	RESISTOR	1.0MΩ,1/6W
R118	QRD161J-102	RESISTOR	1KΩ,1/6W
R119	QRD161J-102	RESISTOR	1KΩ,1/6W
R120	QRD161J-102	RESISTOR	1KΩ,1/6W
R121	QRD161J-472	RESISTOR	4.7KΩ,1/6W
R122	QRD161J-472	RESISTOR	4.7KΩ,1/6W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R123	QRD161J-104	RESISTOR	100KΩ,1/6W
	R124	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R125	QRD161J-103	RESISTOR	10KΩ,1/6W
	R126	QRD161J-103	RESISTOR	10KΩ,1/6W
	R127	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R128	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R129	QRD161J-102	RESISTOR	1KΩ,1/6W
	R130	QRD161J-104	RESISTOR	100KΩ,1/6W
	R131	QRD161J-272	RESISTOR	2.7KΩ,1/6W
	R132	QRD161J-103	RESISTOR	10KΩ,1/6W
	R133	QRD161J-103	RESISTOR	10KΩ,1/6W
	R134	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R135	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R136	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R139	QRD161J-271	RESISTOR	270Ω,1/6W
	R140	QRD161J-103	RESISTOR	10KΩ,1/6W
	R141	QRD161J-103	RESISTOR	10KΩ,1/6W
	R142	QRD161J-103	RESISTOR	10KΩ,1/6W
	R143	QRD161J-103	RESISTOR	10KΩ,1/6W
	R144	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R145	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R146	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	RA101	QRB047J-333	RESISTOR ARRAY	
		or QRB049J-333	RESISTOR ARRAY	
	C101	QEK60JM-107	E CAPACITOR	100µF,6.3V
	C102	QEK60JM-226	E CAPACITOR	22µF,6.3V
	C103	QEA40HZ-104	E CAPACITOR (DOUBLE)	0.1µF,5.5V
	C105	QCBB1HJ-102	CAPACITOR	0.001µF,50V
	C106	QCC11CJ-473	CAPACITOR	0.047µF,16V
	C107	QCC11CJ-473	CAPACITOR	0.047µF,16V
	C108	QEK60JM-107	E CAPACITOR	100µF,6.3V
	C109	QCBB1HJ-101	CAPACITOR	100PF,50V
	C110	QCBB1HJ-101	CAPACITOR	100PF,50V
	C111	QCT30CH-100	CAPACITOR	10PF,50V
	C112	QAT3120-200	TRIMMER CAPACITOR, TIMER CLOCK	20PF
	C114	QCBB1HJ-101	CAPACITOR	100PF,50V
	C121	QCF11HP-473	CAPACITOR	0.047µF,50V
	L101	PU48530-101J	COIL	100µH
⚠	X101	PU61013	CRYSTAL RESONATOR	
	CN101	PU60417-3	CONNECTOR	
	CN102	PU60417-8	CONNECTOR	
	CN103	PU60417-6	CONNECTOR	
	CN105	PU60417-3	CONNECTOR	
	CN106	PU59555-7	CONNECTOR	

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DISPLAY BOARD ASSEMBLY <28>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB10686A1-01	DISPLAY BOARD ASSEMBLY	
	Q1	DTC124ES	TRANSISTOR	
	Q2	DTC124ES	TRANSISTOR	
	Q3	DTC124ES	TRANSISTOR	
	Q4	DTC124ES	TRANSISTOR	
	D1	1SS132	DIODE	
	D2	1SS132	DIODE	
	D3	1SS132	DIODE	
	D4	1SS132	DIODE	
	D5	1SS132	DIODE	
	D6	1SS132	DIODE	
	D7	1SS132	DIODE	
	D8	1SS132	DIODE	
	D9	1SS132	DIODE	
	D10	1SS132	DIODE	
	D12	RD9.1ES-T1B2	ZENER DIODE	
	D20	SLH-34MC3F	LE DIODE, S-VHS	
	D21	SLH-34DC3F	LE DIODE, HYPER BASS	
	D22	SLH-34MC3F	LE DIODE, PICTURE	
	D23	SLH-34MC3F	LE DIODE, SAP	
	D24	SLH-34VC3F	LE DIODE, STEREO	
	R1	QRD161J-103	RESISTOR	10KΩ,1/6W
	R2	QRD161J-181	RESISTOR	180Ω,1/6W
	R3	QRD161J-333	RESISTOR	33KΩ,1/6W
	R4	QRD161J-181	RESISTOR	180Ω,1/6W
	R5	QRD161J-181	RESISTOR	180Ω,1/6W
	R15	QRD161J-181	RESISTOR	180Ω,1/6W
	R17	QRD161J-221	RESISTOR	220Ω,1/6W
	RA1	QRB107J-104	RESISTOR ARRAY	
		or QRB109J-104	RESISTOR ARRAY	
	RA2	QRB117J-104	RESISTOR ARRAY	
		or QRB119J-104	RESISTOR ARRAY	
	C1	QEK61HM-106	E CAPACITOR	10µF,50V
	C2	QEK61CM-106	E CAPACITOR	10µF,16V
	L1	PU48530-101J	COIL	100µH
	S2	PU60975-2Z	TACT SWITCH, STOP/EJECT	
		or ESW0525-02Z	TACT SWITCH	
		or PU60392-2-2	TACT SWITCH	
	S3	PU60975-2Z	TACT SWITCH, FF	
		or PESW0525-02Z	TACT SWITCH	
		or PU60392-2-2	TACT SWITCH	
	S4	PU60975-2Z	TACT SWITCH, REW	
		or PESW0525-02Z	TACT SWITCH	
		or PU60392-2-2	TACT SWITCH	
	S5	PU60975-2Z	TACT SWITCH, TV/VIDEO	
		or PESW0525-02Z	TACT SWITCH	
		or PU60392-2-2	TACT SWITCH	
	S6	PU60975-2Z	TACT SWITCH, REC/ITR	
		or PESW0525-02Z	TACT SWITCH	
		or PU60392-2-2	TACT SWITCH	

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
S7	PU60975-2Z	TACT SWITCH, PLAY
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S8	PU60975-2Z	TACT SWITCH, PAUSE
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S18	PU60975-2Z	TACT SWITCH, MENU
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S23	PU60975-2Z	TACT SWITCH, SELECT
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S24	PU60975-2Z	TACT SWITCH, TIMER
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S27	PU60975-2Z	TACT SWITCH, SP/EP
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S29	PU60975-2Z	TACT SWITCH, CH+
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S30	PU60975-2Z	TACT SWITCH, CH-
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S31	PU60975-2Z	TACT SWITCH, PICTURE
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S32	PU60975-2Z	TACT SWITCH, S-VHS
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S33	PU60975-2Z	TACT SWITCH, INSERT/EDIT
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
S34	PU60975-2Z	TACT SWITCH, HYPER BASS
	or PESW0525-02Z	TACT SWITCH
	or PU60392-2-2	TACT SWITCH
FDP1	PEDP0073	FLUORESCENT DISPLAY PANEL
HD1	PQ34407	FDP HOLDER (L)
HD2	PQ34408	FDP HOLDER (R)
CN1	PU59513-9	CONNECTOR
CN2	PU60417-3	CONNECTOR
CN3	PU60417-5	CONNECTOR

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IFR BOARD ASSEMBLY <34>

PWBA	PB10686A3-01	IFR BOARD ASSEMBLY
IC301	GP1U541X	IR DETECT UNIT
	or GP1U801X	IR DETECT UNIT
CN301	PU60417-3	CONNECTOR

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION

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JACK BOARD ASSEMBLY <37>

PWBA	PB20605A-02	JACK BOARD ASSEMBLY	
Q201	DTC124ES	TRANSISTOR	
Q202	DTC124ES	TRANSISTOR	
D201	SLR-55VC3F	LE DIODE,POWER	
D202	1SS133	DIODE	
D203	1SS133	DIODE	
R201	QRD161J-103	RESISTOR	10KΩ,1/6W
R202	PU60299-2	V RESISTOR, HP LEVEL	
R203	QRD161J-221	RESISTOR	220Ω,1/6W
R204	QRD161J-750	RESISTOR	75Ω,1/6W
R205	QRD161J-103	RESISTOR	10KΩ,1/6W
R206	QRD161J-750	RESISTOR	75Ω,1/6W
R207	QRD161J-750	RESISTOR	75Ω,1/6W
S201	PU60975-2Z	TACT SWITCH, POWER	
	or PESW0525-02Z	TACT SWITCH	
	or PU60392-2-2	TACT SWITCH	
S241	PU60975-2Z	TACT SWITCH, START	
	or PESW0525-02Z	TACT SWITCH	
	or PU60392-2-2	TACT SWITCH	
S242	PU60975-2Z	TACT SWITCH,CUT	
	or PESW0525-02Z	TACT SWITCH	
	or PU60392-2-2	TACT SWITCH	
S245	PU60975-2Z	TACT SWITCH, SEM ON/OFF	
	or PESW0525-02Z	TACT SWITCH	
	or PU60392-2-2	TACT SWITCH	
SPC1	PU59210-002	W.LOKING SPACER, X2	
HD201	PQM30038-1-2	LED HOLDER	
JA201	PEMC0886-01-01	AV JACK, A/V	
JA202	PU60664	MINI JACK, H.PHONE	
JA203	PU60664-3	MINI JACK, R.PAUSE	
CN201	PU58844-9	CONNECTOR	
CN202	PU60417-4	CONNECTOR	
CN203	PU59555-6	CONNECTOR	
CN204	PU59555-3	CONNECTOR	
CN205	PU59555-2	CONNECTOR	
CN206	PU59555-2	CONNECTOR	

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UPPER DRUM BOARD ASSEMBLY <41>

PWB1	PDM3293	UPPER DRUM BOARD

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PRE/REC AMP BOARD ASSEMBLY <43>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	PWBA	PB10571B	PRE/REC BOARD ASSEMBLY
	IC1	HA118162NT	IC
	IC2	MC14052BCP	IC
		or TC4052BP	IC
	IC201	AN3380NK	IC
	Q3	DTC143EU	TRANSISTOR
	Q4	DTC143EU	TRANSISTOR
	Q5	DTC143EU	TRANSISTOR
	Q6	DTC143EU	TRANSISTOR
	Q7	DTC143EU	TRANSISTOR
	Q8	DTC143EU	TRANSISTOR
⚠	Q10	2SC4081(S)	TRANSISTOR
⚠	Q11	DTC143EU	TRANSISTOR
	Q13	2SC4081(QRS)	TRANSISTOR
	Q14	2SA1576(QR)	TRANSISTOR
	Q15	2SC4081(QRS)	TRANSISTOR
	Q16	DTC143EU	TRANSISTOR
	Q17	2SC4081(QRS)	TRANSISTOR
	Q18	2SC4081(QRS)	TRANSISTOR
	Q19	DTC144EU	TRANSISTOR
	Q20	2SC4081(QRS)	TRANSISTOR
	Q21	DTA124EU	TRANSISTOR
	Q22	DTA124EU	TRANSISTOR
	Q23	DTC144EU	TRANSISTOR
	Q24	DTC144EU	TRANSISTOR
	Q25	2SC4081(QRS)	TRANSISTOR
	Q26	2SA1576(QR)	TRANSISTOR
	Q27	2SC4081(QRS)	TRANSISTOR
	Q28	2SA1576(QR)	TRANSISTOR
	Q29	2SC4081(QRS)	TRANSISTOR
	Q30	2SC4081(QRS)	TRANSISTOR
	Q31	DTC144EU	TRANSISTOR
	Q32	DTC144EU	TRANSISTOR
	Q33	2SA1576(QR)	TRANSISTOR
	Q34	2SC4081(QRS)	TRANSISTOR
	Q35	2SC4081(QRS)	TRANSISTOR
	Q36	2SC4081(QRS)	TRANSISTOR
	Q37	DTC124EU	TRANSISTOR
	Q38	2SA1576(QR)	TRANSISTOR
	Q39	DTA124EU	TRANSISTOR
	Q41	2SC4081(QRS)	TRANSISTOR
	Q201	DTC124TU	TRANSISTOR
	Q202	DTC124TU	TRANSISTOR
	Q203	DTC114WU	TRANSISTOR
	Q204	2SC4081(QRS)	TRANSISTOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	Q205	DTA114EU	TRANSISTOR	
	Q206	DTC114WU	TRANSISTOR	
	D1	DAP202U	DIODE	
	D2	DAP202U	DIODE	
	D3	1SS133	DIODE	
		or MA165	DIODE	
	D6	DAN202U	DIODE	
	D7	DAN202U	DIODE	
	D8	DAN202U	DIODE	
	D9	DAP202U	DIODE	
	D10	DAN202U	DIODE	
	D11	DAP202U	DIODE	
	D201	1SS133	DIODE	
		or MA165	DIODE	
	D203	1SS133	DIODE	
		or MA165	DIODE	
	R1	QRSA08J-510YN	RESISTOR	51Ω,1/10W
	R2	QRSA08J-301YN	RESISTOR	300Ω,1/10W
	R3	QRSA08J-560YN	RESISTOR	56Ω,1/10W
	R4	NRVA62D-330N	RESISTOR	33Ω,1/16W
	R5	NRVA62D-330N	RESISTOR	33Ω,1/16W
	R6	QRSA08J-470YN	RESISTOR	47Ω,1/10W
	R7	QRSA08J-301YN	RESISTOR	300Ω,1/10W
	R8	QRSA08J-360YN	RESISTOR	36Ω,1/10W
	R9	NRVA62D-560N	RESISTOR	56Ω,1/16W
	R10	NRVA62D-201N	RESISTOR	200Ω,1/16W
	R11	NRVA62D-470N	RESISTOR	47Ω,1/16W
	R12	NRVA62D-560N	RESISTOR	56Ω,1/16W
	R13	NRVA62D-201N	RESISTOR	200Ω,1/16W
	R14	NRVA62D-470N	RESISTOR	47Ω,1/16W
	R15	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
	R16	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
	R17	QRSA08J-152YN	RESISTOR	1.5KΩ,1/10W
	R19	QRSA08J-122YN	RESISTOR	1.2KΩ,1/10W
	R20	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R21	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
	R22	QRSA08J-152YN	RESISTOR	1.5KΩ,1/10W
	R23	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
	R24	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R25	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R26	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R27	QRSA08J-471YN	RESISTOR	470Ω,1/10W
	R28	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R29	QRSA08J-391YN	RESISTOR	390Ω,1/10W
	R30	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R31	QRSA08J-101YN	RESISTOR	100Ω,1/10W
	R32	QRSA08J-161YN	RESISTOR	160Ω,1/10W
	R33	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
	R34	QRSA08J-182YN	RESISTOR	1.8KΩ,1/10W
	R37	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
	R38	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R39	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R40	QRSA08J-183YN	RESISTOR	18KΩ,1/10W
R41	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R42	QRSA08J-563YN	RESISTOR	56KΩ,1/10W
R43	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R44	QVPA603-472	V RESISTOR, S SP REC COLOR	4.7KΩ
R45	QVPA603-472	V RESISTOR, S EP REC COLOR	4.7KΩ
R46	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R48	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R49	QRSA08J-273YN	RESISTOR	27KΩ,1/10W
R50	QRSA08J-362YN	RESISTOR	3.6KΩ,1/10W
R51	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R52	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R53	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R54	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R55	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R56	QVPA603-222	V RESISTOR, S SP FREQENCY	2.2KΩ
R57	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R58	QVPA603-222	V RESISTOR, S EP FREQENCY	2.2KΩ
R59	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
R60	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
R61	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R62	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R63	QRSA08J-152YN	RESISTOR	1.5KΩ,1/10W
R64	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R65	QRSA08J-822YN	RESISTOR	8.2KΩ,1/10W
R66	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R67	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R68	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R69	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R70	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R71	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R72	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R73	QRSA08J-752YN	RESISTOR	7.5KΩ,1/10W
R74	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
R75	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R76	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R77	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R78	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R79	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R80	QRSA08J-273YN	RESISTOR	27KΩ,1/10W
R81	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R82	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R84	QRSA08J-562YN	RESISTOR	5.6KΩ,1/10W
R85	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R86	QRSA08J-182YN	RESISTOR	1.8KΩ,1/10W
R87	QRSA08J-393YN	RESISTOR	39KΩ,1/10W
R89	QRSA08J-473YN	RESISTOR	47KΩ,1/10W
R90	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R91	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R92	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R95	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R96	QRSA08J-821YN	RESISTOR	820Ω,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R97	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R98	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R99	QRSA08J-472YN	RESISTOR	4.7KΩ,1/10W
R100	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R101	QRSA08J-392YN	RESISTOR	3.9KΩ,1/10W
R102	QRSA08J-272YN	RESISTOR	2.7KΩ,1/10W
R103	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R104	QRD161J-101	RESISTOR	100Ω,1/6W
R201	QRSA08J-273YN	RESISTOR	27KΩ,1/10W
R202	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R203	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R204	QRSA08J-274YN	RESISTOR	270KΩ,1/10W
R205	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R206	QRSA08J-333YN	RESISTOR	33KΩ,1/10W
R207	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R208	QRSA08J-332YN	RESISTOR	3.3KΩ,1/10W
R210	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
R211	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R212	QRSA08J-103YN	RESISTOR	10KΩ,1/10W
R213	QRSA08J-102YN	RESISTOR	1KΩ,1/10W
R214	QRSA08J-560YN	RESISTOR	56Ω,1/10W
R215	QRSA08J-560YN	RESISTOR	56Ω,1/10W
R216	QVZ3521-331Z	V RESISTOR, A REC FM	330Ω
R217	QRSA08J-153YN	RESISTOR	15KΩ,1/10W
R218	QRSA08J-152YN	RESISTOR	1.5KΩ,1/10W
R219	QRSA08J-0R0Y	RESISTOR	0.0Ω,1/10W
R223	QRSA08J-682YN	RESISTOR	6.8KΩ,1/10W
R224	QRSA08J-222YN	RESISTOR	2.2KΩ,1/10W
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C3	QCSA1HJ-150	CAPACITOR	15PF,50V
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C8	QCSA1HJ-150	CAPACITOR	15PF,50V
C10	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C11	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C13	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C14	QCSA1HJ-180	CAPACITOR	18PF,50V
C15	QCSA1HJ-9R0	CAPACITOR	9PF,50V
C16	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C17	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C19	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C20	QEK60JM-476	E CAPACITOR	47μF,6.3V
C21	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C22	QEK60JM-476	E CAPACITOR	47μF,6.3V
C23	QCSA1HJ-391	CAPACITOR	390PF,50V
C24	QCSA1HJ-271	CAPACITOR	270PF,50V
C25	QCFA1CZ-334	CAPACITOR	0.33μF,16V
C26	QEK61HM-105	E CAPACITOR	1μF,50V
C27	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C28	QEK61HM-105	E CAPACITOR	1μF,50V
C29	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C30	QCFA1HZ-103	CAPACITOR	0.01μF,50V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C31	QCSA1HJ-820	CAPACITOR	82PF,50V
	C32	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C33	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C34	QEK61CM-476	E CAPACITOR	47μF,16V
	C35	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C36	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C37	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C38	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C39	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C40	QCSA1HJ-271	CAPACITOR	270PF,50V
	C41	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C42	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C43	QCSA1HJ-101	CAPACITOR	100PF,50V
	C44	QCSA1HJ-330	CAPACITOR	33PF,50V
	C45	QCSA1HJ-390	CAPACITOR	39PF,50V
	C46	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C47	QCSA1HJ-100	CAPACITOR	10PF,50V
	C48	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C49	QCSA1HJ-150	CAPACITOR	15PF,50V
	C50	QCSA1HJ-180	CAPACITOR	18PF,50V
	C51	QCSA1HJ-390	CAPACITOR	39PF,50V
	C52	QCSA1HJ-120	CAPACITOR	12PF,50V
	C53	QCSA1HJ-120	CAPACITOR	12PF,50V
	C54	QCSA1HJ-820	CAPACITOR	82PF,50V
	C55	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C56	QEK61CM-476	E CAPACITOR	47μF,16V
	C57	QCSA1HJ-330	CAPACITOR	33PF,50V
	C58	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C59	QCSA1HJ-560	CAPACITOR	56PF,50V
	C60	QCSA1HJ-390	CAPACITOR	39PF,50V
	C61	QCSA1HJ-150	CAPACITOR	15PF,50V
	C62	QCSA1HJ-330	CAPACITOR	33PF,50V
	C63	QCSA1HJ-180	CAPACITOR	18PF,50V
	C64	QCSA1HJ-120	CAPACITOR	12PF,50V
	C65	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C66	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C67	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C68	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C69	QCSA1HJ-220	CAPACITOR	22PF,50V
	C70	QCSA1HJ-470	CAPACITOR	47PF,50V
	C73	QCSA1HJ-151	CAPACITOR	150PF,50V
	C76	QCFA1HZ-103	CAPACITOR	0.01μF,50V
	C77	QCSA1HJ-470	CAPACITOR	47PF,50V
	C80	QCC11CJ-223	CAPACITOR	0.022μF,16V
	C201	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C202	QCSA1HJ-391	CAPACITOR	390PF,50V
	C203	QCSA1HJ-561	CAPACITOR	560PF,50V
	C204	QCSA1HJ-102	CAPACITOR	0.001μF,50V
	C205	QCSA1HJ-561	CAPACITOR	560PF,50V
	C206	QCSA1HJ-102	CAPACITOR	0.001μF,50V
	C207	QCFA1CZ-224	CAPACITOR	0.22μF,16V
	C208	QCSA1HJ-391	CAPACITOR	390PF,50
	C209	QEK60JM-107	E CAPACITOR	100μF,6.3
	C210	QCYA1HK-103	CAPACITOR	0.01μF,50
	C211	QCYA1HK-103	CAPACITOR	0.01μF,50
	C214	QCSA1HJ-330	CAPACITOR	33PF,50
	C215	QCSA1HJ-102	CAPACITOR	0.001μF,50
	C216	QCYA1HK-103	CAPACITOR	0.01μF,50
	C217	QCSA1HJ-102	CAPACITOR	0.001μF,50
	C218	QCSA1HJ-102	CAPACITOR	0.001μF,50
	C219	QCYA1HK-103	CAPACITOR	0.01μF,50
	C220	QEK61EM-476	E CAPACITOR	47μF,25
	C221	QCYA1HK-103	CAPACITOR	0.01μF,50
	C224	QCFA1CZ-224	CAPACITOR	0.22μF,16
	L1	PU59988-221J	COIL	220μ
	L2	PU59988-101J	COIL	100μ
	L3	PU48530-101K	COIL	100μ
	L4	PU48530-101K	COIL	100μ
	L5	PU59988-221J	COIL	220μ
	L6	PU48530-220J	COIL	22μ
	L7	PU48530-101K	COIL	100μ
	L8	PU59988-4R7J	COIL	4.7μ
	L9	PU59988-560J	COIL	56μ
	L10	PU59988-150J	COIL	15μ
	L11	PU59988-390J	COIL	39μ
	L12	PU59988-221J	COIL	220μ
	L13	PU59988-100J	COIL	10μ
	L14	PU59988-270J	COIL	27μ
	L15	PU59988-270J	COIL	27μ
	L16	PU59988-560J	COIL	56μ
	L17	PU59988-220J	COIL	22μ
	L18	PU48530-101K	COIL	100μ
	L19	PU59988-390J	COIL	39μ
	L20	PU48530-470J	COIL	47μ
	L201	PELN0530-101J	COIL	100μ
	BPF201	PELN0290	BAND PASS FILTER	
	SLD1	PQ21271	SHIELD FRAME	
	TP1	PU60142-2	CONNECTOR, TP54	
	TP2	PU60142-2	CONNECTOR, TP5	
	CN1	PU59974-13	CONNECTOR	
	CN2	PU59555-103	CONNECTOR	
	CN3	PU59555-105	CONNECTOR	
	CN4	PU60417-105	CONNECTOR	
	CN5	PU60417-104	CONNECTOR	
	CN6	PU59555-103	CONNECTOR	
	CN7	PU59555-103	CONNECTOR	
	CN201	PU59555-102	CONNECTOR	
	CN202	PU60417-106	CONNECTOR	

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FLYING ERASE BOARD ASSEMBLY <46>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB10661A2	FLYING ERASE BOARD ASSEMBLY	
	Q801	2SA933S	TRANSISTOR	
	Q802	2SC1741S(QR)	TRANSISTOR	
	Q803	2SA933S(Q)	TRANSISTOR	
	Q804	2SD639R	TRANSISTOR	
	Q805	2SD639R	TRANSISTOR	
	D801	UZ8.2BSC	ZENER DIODE	
	D802	1SS133	DIODE	
		or MA165	DIODE	
	R801	QRD161J-473	RESISTOR	47KΩ,1/6W
	R802	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R803	QRD161J-222	RESISTOR	2.2KΩ,1/6W
	R804	QRD161J-473	RESISTOR	47KΩ,1/6W
	R805	QRD161J-223	RESISTOR	22KΩ,1/6W
	R806	QRD161J-104	RESISTOR	100KΩ,1/6W
	R807	QRD161J-121	RESISTOR	120Ω,1/6W
	R808	QRD161J-104	RESISTOR	100KΩ,1/6W
	R809	QRD161J-121	RESISTOR	120Ω,1/6W
	R810	QRD161J-101	RESISTOR	100Ω,1/6W
	C801	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C802	QCC11EJ-123	CAPACITOR	0.012μF,25V
	C803	QCSB1HJ-560	CAPACITOR	56PF,50V
	C804	QCBB1HJ-820	CAPACITOR	82PF,50V
	C805	QCVB1CN-103	CAPACITOR	0.01μF,16V
	C806	QCBB1HJ-820	CAPACITOR	82PF,50V
	C808	QCT25UJ-181	CAPACITOR	180PF,50V
	C809	QCT25UJ-330	CAPACITOR	33PF,50V
	L801	PU48530-560J	COIL	56μH
	L802	PU48530-3R3K	COIL	3.3μH
	L803	PU48530-3R3K	COIL	3.3μH
	L804	PU59152-101J	COIL	100μH
	L805	PU59152-100J	COIL	100μH
⚠	T801	PU56175	S.TRANS	
	SLD801	PU61041	SHIELD CASE	
	SLD802	PU61042	SHIELD COVER	
	SLD803	PU61043	SHIELD PLATE	
	CN801	PU59555-3	CONNECTOR	
	CN802	PEMC0713-104	CONNECTOR	

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DECK TERMINAL BOARD ASSEMBLY <51>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB10481A-01	DECK TERMINAL BOARD ASSEMBLY	
	Q1	PU60625	END SENSOR	
	R3	QRD161J-331	RESISTOR	330Ω,1/6W
	R4	QRD161J-331	RESISTOR	330Ω,1/6W
	R5	QRD161J-331	RESISTOR	330Ω,1/6W
	R8	NTH5D473KB	THERMISTOR	
		or ERT-D2ZHK473S	NEGA THERMISTOR	
		or NTH5D473KA	RESISTOR	
	C1	QCVB1CM-103	CAPACITOR	0.01μF,16V
	PS1	PS5705HR	PH INTERRUPTER	
	PS2	PS5705HR	PH INTERRUPTER	
⚠	TH601	PESC1041	POSI THERMISTOR	
	CN1	PEMC0722-018	WIRE TRAP	
		or PEMC0753-018	WIRE TRAP	
	CN2	PU60642	CONNECTOR(7PIN)	
	CN3	PU60640	CONNECTOR(4PIN)	

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LOADING MDA BOARD ASSEMBLY <55>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PB30150A	LOADING MDA BOARD ASSEMBLY	
⚠	IC1	BA6418N	IC	
⚠		or XRA6418N	IC	
	C1	QETA1CM-227	E CAPACITOR	220μF,16V
	C3	QETA1HM-105	E CAPACITOR	1μF,50V
	CN1	PU59555-104	CONNECTOR	
	CN2	PU58844-2	CONNECTOR	

****

CASSETTE HOUSING BOARD <56>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWB1	PB40061	CASSETTE HOUSING BOARD	
	Q2	PN268VI	PHOTO TRANSISTOR	
	D1	UZ5.1BSB	ZENER DIODE	
		or RD5.1ESB2	ZENER DIODE	
	R1	QRD162J-473	RESISTOR	47KΩ,1/6W
	R2	QRD182J-681	RESISTOR	680Ω,1/8W
	R3	QRD122J-102S	RESISTOR	1KΩ,1/2W
	C1	QCC11EJ-103	CAPACITOR	0.01μF,25V
	PHS3	PU60629	CASSETTE SENSOR	
	TH1	ERT-D2FHJ503S	THERMISTOR	
		or ERT-D2FHK503S	THERMISTOR	
		or PESC1084	NEGA THERMISTOR	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	CN2	PU60639	4PIN SOCKET	

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HYPER BASS BOARD ASSEMBLY <75>

	PWBA	PB10661A3	HYPER BASS BOARD ASSEMBLY	
	IC151	XRA15218N	IC	
		or A15218N	IC	
	Q151	2SC1740S(RS)	TRANSISTOR	
		or 2SC3199(G)	TRANSISTOR	
	Q152	2SC1740S(RS)	TRANSISTOR	
		or 2SC3199(G)	TRANSISTOR	
	Q153	DTA144ES	TRANSISTOR	
	R151	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	R152	QRD161J-331	RESISTOR	330Ω,1/6W
	R153	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R154	QRD161J-103	RESISTOR	10KΩ,1/6W
	R155	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	R156	QRD161J-331	RESISTOR	330Ω,1/6W
	R157	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R158	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R159	QRD161J-473	RESISTOR	47KΩ,1/6W
	R160	QRD161J-473	RESISTOR	47KΩ,1/6W
	R161	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R162	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R163	QRD161J-331	RESISTOR	330Ω,1/6W
	R164	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	R165	QRD161J-331	RESISTOR	330Ω,1/6W
	R166	QRD161J-472	RESISTOR	4.7KΩ,1/6W
	R167	QRD161J-103	RESISTOR	10KΩ,1/6W
	R168	QRD161J-122	RESISTOR	1.2KΩ,1/6W
	C151	QETC1AM-476	E CAPACITOR	47μF,10V
	C153	QETC1HM-105	E CAPACITOR	1μF,50V
	C154	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C155	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C156	QETC1AM-107	E CAPACITOR	100μF,10V
	C157	QETC1AM-107	E CAPACITOR	100μF,10V
	C158	QETC1CM-476	E CAPACITOR	47μF,16V
	C159	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C161	QETC1HM-105	E CAPACITOR	1μF,50V
	C162	QETC1HM-225	E CAPACITOR	2.2μF,50V
	C163	QETC1AM-476	E CAPACITOR	47μF,10V
	CN14	PEMC0713-107	CONNECTOR	

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REMOTE PAUSE BOARD ASSEMBLY <96>

	PWBA	PB10661A4	REMOTE PAUSE BOARD ASSEMBLY	
	Q901	DTC114ES	TRANSISTOR	

SECTION 6
TECHNICAL INFORMATIONS

6.1 CPU PIN FUNCTION

1. Mechacon CPU pin function

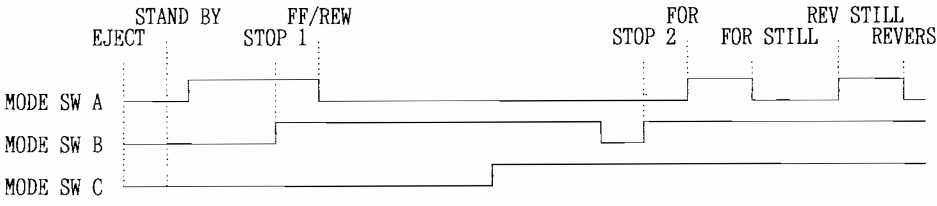
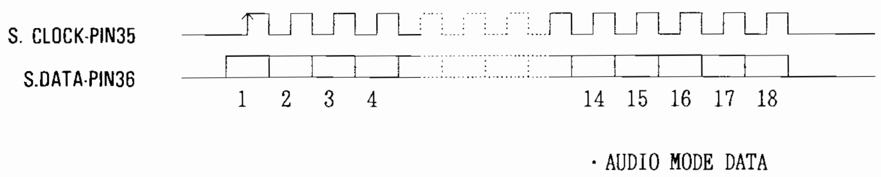
PIN NO.	LABEL	IN / OUT	NOTE
1	Vcc	IN	UNSW 5V
2	V.REF	IN	UNSW 5V
3	FM IN	IN	AUTO TRACKING DATA INPUT
4	THERM	IN	THERMIC CORRECTION (SLOW CAPSTAN BRAKE CONTROL)
5	S CURVE	IN	TUNING CHECK
6	LSA	IN	MECHANISM MODE DETECT
7	LSB	IN	
8	LSC	IN	
 EJECT STAND BY STOP 1 FF/REW STOP 2 FOR FOR STILL REV STILL REVERSE 2 MODE SW A MODE SW B MODE SW C			
9	REC SAFETY SW	IN	REC SAFETY SW DETECT(ON : L)
10	CASS	IN	CASSETTE SENSOR (SENSOR ON : L)
11	S.CASS	IN	S-VHS CASSETTE SENSOR (S TAPE : L)
12	AP.CTL	OUT	PICTURE CONTROL
13	DRUM V	OUT	DRUM MOTOR CONTROL / CORRECTION
14	CAP V.CTL	OUT	CAPSTAN MOTOR CONTROL / CORRECTION
15	START SENSOR	IN	LEADER TAPE DETECT (DET ON : L)
16	END SENSOR	IN	TRAILER TAPE DETECT (DET ON : L)
17	V FF	IN	DRUM MOTOR SPEED DETECT AND TIMING CONTROL
18	CTL PULSE	IN	MODE DETECT, BLANK TAPE DETECT
19	A / M / S	OUT	HEAD SELECT (AUTO : M / MANUAL : H / SLOW : L)
20	V.PULSE	OUT	SPECIAL PB : ON
21	HEAD SELECT	OUT	SP : L, EP : H
22	PAUSE OUT	OUT	REMOTE PAUSE CONTROL
23	REV	OUT	CAPSTAN MOTOR CONTROL (FWD : H, REV : L)
24	SP FG	IN	SUPPLY REEL ROTATION DETECT, TAPE REMAINING DATA
25	TU FG	IN	TAKE-UP REEL ROTATION DETECT. TAPE REMAINING DATA
26	CAPSTAN FG	IN	MODE DETECT, TAPE REMAINING DATA
27	CN Vss	–	GND
28	RESET	IN	AC IN RESET
29	X IN	IN	MAIN SYSTEM CLOCK(4MHz)
30	X OUT	OUT	

Table 6-1-1 Mechacon CPU pin function

PIN NO.	LABEL	IN / OUT	NOTE
31	ϕ	—	NC
32	Vss	—	GND
33	HiFi REC START	OUT	HiFi REC START : L
34	AUDIO MUTE	OUT	AUDIO MUTE : H
35	A. IC CLK	OUT	AUDIO SERIAL DATA TRANSFER CLOCK (IC1)
36	A. IC DATA	OUT	AUDIO CONTROL SERIAL DATA
	 S. CLOCK-PIN35 S.DATA-PIN36 1 2 3 4 14 15 16 17 18 · AUDIO MODE DATA		
37	N.D.	IN	NORMAL AUDIO DETECT (NORMAL AUDIO : L)
38	MA.S.DATA	OUT	AUDIO CONTROL DATA OUTPUT (IC2)
39	MA.S.CLK	OUT	AUDIO SERIAL DATA TRANSFER CLOCK (IC2)
40	NC	—	NC
41	DET.S	IN	S-VHS PB : H. VHS PB : L
42	VIDEO REC	OUT	VIDEO REC : L
43	REC START	OUT	REC START : L
44	NC	—	NC
45	F.E CTL	OUT	FLYING ERASE CONTROL. (ON : L)
46	NC	—	NC
47	SYNC DET	IN	SYNC DETECT, BLUE BACK CONTROL
48	S / S	OUT	SLOW / STILL(L)
49	LOADING M2	OUT	FWD H REV L BRAKE H STOP L
50	LOADING M1	OUT	L H H L
51	INDEX	IN / OUT	INDEX DATA(VISS)WRITE CONTROL AND DETECT ON : L
52	S.DATA	OUT	16 BIT SERIAL DATA FOR SERVO IC

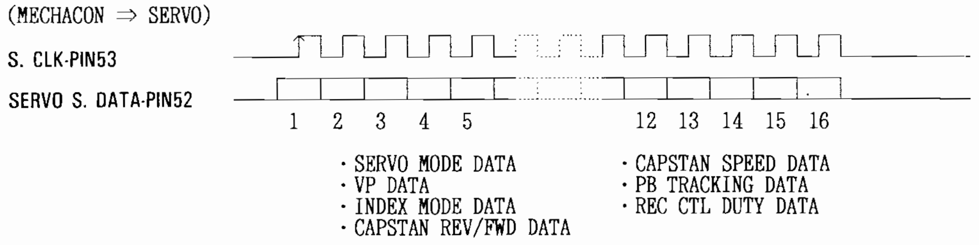
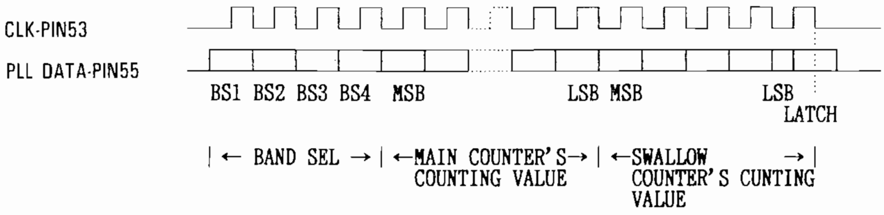

(MECHACON ⇒ SERVO)
S. CLK-PIN53
SERVO S. DATA-PIN52
1 2 3 4 5
12 13 14 15 16
· SERVO MODE DATA
· VP DATA
· INDEX MODE DATA
· CAPSTAN REV/FWD DATA
· CAPSTAN SPEED DATA
· PB TRACKING DATA
· REC CTL DUTY DATA

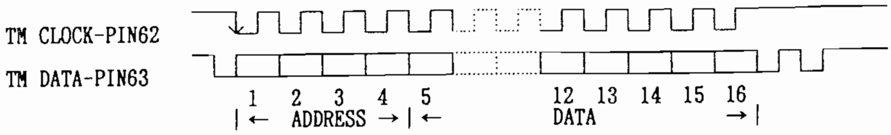
Table 6-1-2 Mechacon CPU pin function

<table>
<tr><th>PIN NO.</th><th>LABEL</th><th>IN / OUT</th><th>NOTE</th></tr>
<tr><td>53</td><td>S.CLK / PLL CLK</td><td>OUT</td><td>DATA TRANSFER CLOCK</td></tr>
<tr><td>54</td><td>PLL LOCK</td><td>IN</td><td>TUNING CHECK DATA</td></tr>
<tr><td>55</td><td>PLL DATA</td><td>OUT</td><td>TUNING CONTROL DATA</td></tr>
<tr><td colspan="4">


CLK-PIN53
PLL DATA-PIN55
BS1 BS2 BS3 BS4 MSB
LSB MSB
LSB
LATCH
| ← BAND SEL → |
←MAIN COUNTER'S→ | COUNTING VALUE
←SWALLOW COUNTER'S CUNTING VALUE → |

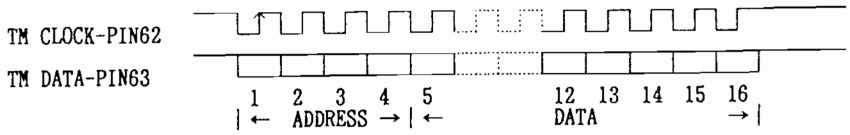
</td></tr>
<tr><td>56</td><td>D.MUTE</td><td>0</td><td>DEMODU MUTE CONTROL</td></tr>
<tr><td>57</td><td>NC</td><td>—</td><td>NC</td></tr>
<tr><td>58</td><td>POWER CONTROL</td><td>OUT</td><td>POWER ON : L</td></tr>
<tr><td>59</td><td>R.REV</td><td>0</td><td>REV MODE : L</td></tr>
<tr><td>60</td><td>PAUSE</td><td>OUT</td><td>CAPSTAN MOTOR CONTROL (PAUSE : L / NORMAL : H)</td></tr>
<tr><td>61</td><td>SERVO</td><td>OUT</td><td>CAPSTAN MOTOR CONTROL (SERVO : H / MECHACON : L)</td></tr>
<tr><td>62</td><td>TIMER SERIAL CLOCK</td><td>IN</td><td>TIMER / MECHACON SERIAL DATA TRANSFER CLOCK</td></tr>
<tr><td>63</td><td>TIMER DATA</td><td>IN / OUT</td><td>TIMER / MECHACON SERIAL DATA</td></tr>
<tr><td></td><td colspan="3">

(TIMER ⇒ MECHACON)


TM CLOCK-PIN62
TM DATA-PIN63
1 2 3 4 5
| ← ADDRESS → | ←
12 13 14 15 16
DATA
→ |

- KEY SCAN DATA
- REMOCON DATA
- TIMER RECORDING DATA

(MECHACON ⇒ TIMER)


TM CLOCK-PIN62
TM DATA-PIN63
1 2 3 4 5
| ← ADDRESS → | ←
12 13 14 15 16
DATA
→ |

- TO PREVENT V JITTER DATA
- SLOW TRACKING DATA
- DECK CONDITION DATA
- VISS FUNCTION DATA

</td></tr>
<tr><td>64</td><td>REMOTE PAUSE</td><td>IN</td><td>REMOTE PAUSE CONTROL (ON : L)</td></tr>
</table>

Table 6-1-3 Mechacon CPU pin functionn

2. Timer CPU PIN FUNCTION

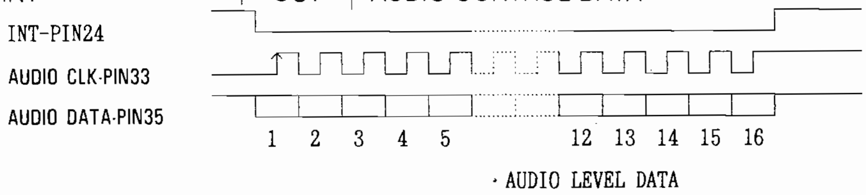
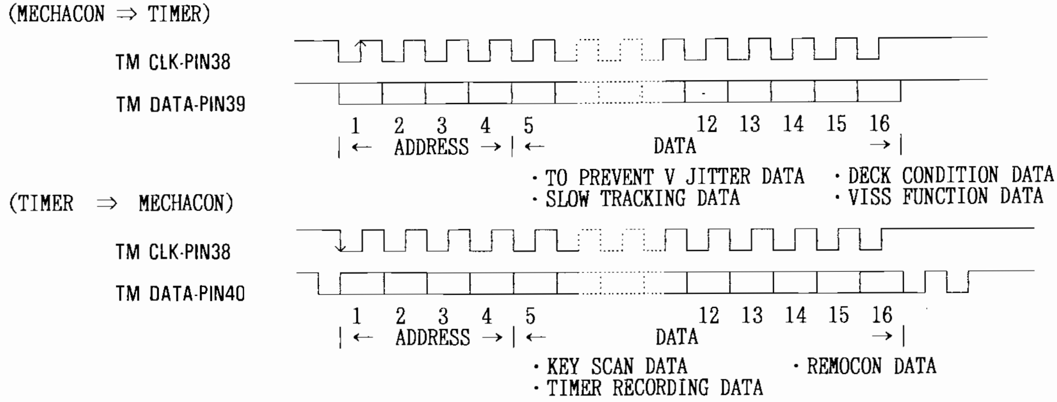
PIN NO.	LABEL	IN / OUT	NOTE
1	Se	OUT	KEY SCAN PULSE OUTPUT
2	Sd	OUT	
3	Sc	OUT	
4	Sb	OUT	
5	Sa	OUT	
6	5G	OUT	COLUMN DISPLAY DATA
7	4G	OUT	
8	3G	OUT	
9	2G	OUT	
10	1G	OUT	
11	1G END	IN	LIGHTING DATA OUTPUT CHECK
12	–	–	NC
13	–		
14	–		
15	–		
16	–		
17	S-VHS	OUT	S-VHS LED : H
18	TEST	IN	TEST POINT (CLOCK ADJUST / FDP CHECK)
19	POWER DOWN	IN	POWER DOWN DETECT(POWER DOWN : L)
20	PICTURE	OUT	PICTURE LED : H
21	HYPER BASS	OUT	HYPER BASS LED : H
22	POWER	OUT	POWER LED : H
23	SAP ON CTL	OUT	AUDIO SIGNAL SELECT
24	JSA	IN	JOG PULSE INPUT
25	STLL	IN	SHUTTLE SW ON : H
26	JSB	IN	JOG PULSE INPUT
27	A.INT	OUT	AUDIO CONTROL DATA  INT-PIN24 AUDIO CLK-PIN33 AUDIO DATA-PIN35 1 2 3 4 5 12 13 14 15 16 · AUDIO LEVEL DATA
28	1G END	IN	LIGHTING DATA OUTPUT CHECK
29	CNT PLS	IN	CONTROL PULSE
30	RC IN	IN	REMOTE CONTROL DATA INPUT
31	LINK	IN	AV COMPU LINK CONTROL (DATA IN / OUT)
32	Vcc	–	UNSW 5V
33	C2 / S-CLK	OUT	DATA TRANSFER CLOCK
34	CE	OUT	CHIP ENABLE
35	C1 / DATA	IN / OUT	ON SCREEN DATA / AUDIO DATA
36	PROG	OUT	BLUE BACK MODE:H
37	SYNC DET	IN	INPUT SIGNAL DETECT
38	TIMER SERIAL CLOCK	OUT	TIMER / MECHACON SERIAL DATA TRANSFER CLOCK

Table 6-2-1 Timer CPU pin function

PIN NO.	LABEL	IN / OUT	NOTE
39	S-DATA	IN	MECHACON SERIAL DATA
40	S-OUT	OUT	TIMER SERIAL DATA


(MECHACON ⇒ TIMER)
TM CLK-PIN38
TM DATA-PIN39
1 2 3 4 5 12 13 14 15 16
|← ADDRESS →|← DATA →|
· TO PREVENT V JITTER DATA
· SLOW TRACKING DATA
· DECK CONDITION DATA
· VISS FUNCTION DATA
(TIMER ⇒ MECHACON)
TM CLK-PIN38
TM DATA-PIN40
1 2 3 4 5 12 13 14 15 16
|← ADDRESS →|← DATA →|
· KEY SCAN DATA
· TIMER RECORDING DATA
· REMOCON DATA

PIN NO.	LABEL	IN / OUT	NOTE
41	OS RST	OUT	ON SCEEN REST
42	OS CE	OUT	ON SCREEN CHIP ENABLE
43	KS 0	IN	KEY SCAN INPUT
44	KS 1	IN	KEY SCAN INPUT
45	KS 2	IN	KEY SCAN INPUT
46	KS 3	IN	KEY SCAN INPUT
47	RESET	IN	RESET AT CONNECT VCR TO AC
48	OSC 2	OUT	MAIN SYSTEM CLOCK (4.19MHz)
49	OSC 1	IN	
50	GND	–	GND
51	CL 1	IN	NORMALLY GND CONNECTION
52	NC	–	NC
53	+5V	IN	UNSW 5V
54	Sp	OUT	KEY SCAN PULSE OUTPUT
55	So	OUT	
56	Sn	OUT	
57	Sm	OUT	
58	Sl	OUT	
59	Sk	OUT	
60	Sj	OUT	
61	Si	OUT	
62	Sh	OUT	
63	Sg	OUT	
64	Sf	OUT	

Table 6-2-2 Timer CPU pin function